FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

AUGUST, 1951

OHIO STATE UNIVERSITY

...ist an Atomic Bomb Blast; Just a Propane Storage Tank "Letting Go" at Recent Fire in Newark, N. J. (Article in this Issue)

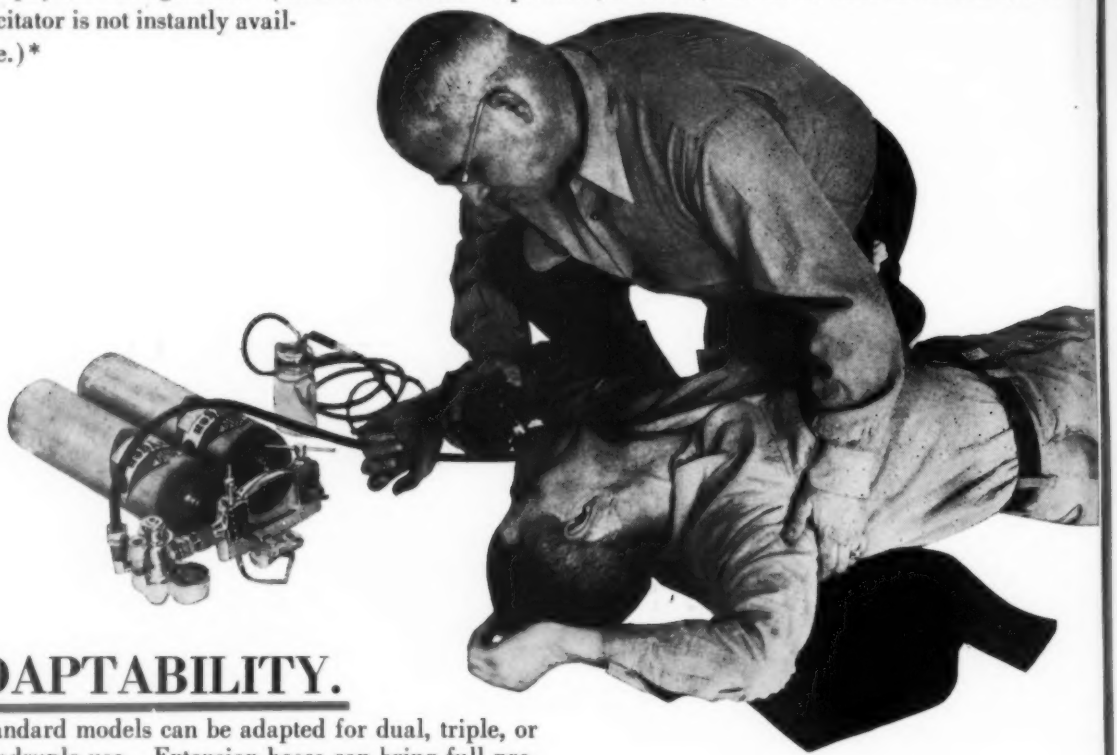
A CASE - SHEPPERD - MANN PUBLICATION

These Advantages Add Up!

SIMPLICITY. In breathing emergencies speed saves lives, and simplicity means speed. Emersons have it.

SAFETY. No instance has ever been recorded of injury from the gentle pressures used. Since approval by the American Medical Association in 1942 thousands of cases have been treated, all safely, including adults, children, and even newborn babies. An important safety factor is the suction phase, which gives vital aid to the circulation by helping the heart to fill normally.*

EFFECTIVENESS. Extensive medical research has found immediate positive-and-negative resuscitation to be the most effective life-saving measure in asphyxial emergencies. (Manual artificial respiration, however, should be used as first aid, if a resuscitator is not instantly available.)*



ADAPTABILITY.

Standard models can be adapted for dual, triple, or quadruple use. Extension hoses can bring full protection to victims more than 400 feet from the parent machine. Manifolds are available for Civil Defense protection.

Write for circular on the newest models.

****Write for free bulletins "Medical Reference on Resuscitation" and "A New Manual Method of Artificial Respiration."***

EMERSON RESUSCITATORS

Can Help You Save Lives

J. H. EMERSON CO.

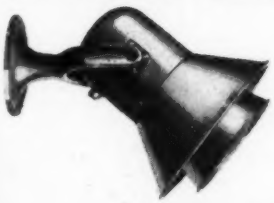
92 COTTAGE PARK AVENUE CAMBRIDGE 40, MASSACHUSETTS

FEDERAL

This Name and this Mark-

YOUR ASSURANCE OF *SATISFACTION*
A PLEDGE OF *PRODUCT INTEGRITY*
A SYMBOL OF SIGNAL LEADERSHIP

in FIRE ALARM, SIRENS, AIR HORNS, CONTROLS



Makers of the famous vertical general alarm and code sirens as well as the smaller type A siren for alarm, industrial and traffic applications.

Makers of the Tritone Triple Combination Air Horn.

Makers of Federal Remote Controls, General Alarm Controls, Alarm Boxes, Transmitters and Time Clocks.

AIR RAID WARNING SIGNALS

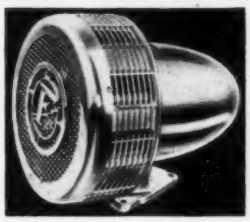
Makers of Vertical Air raid sirens almost universally used in World War II and even more popular today.

Makers of electric horns, bells, hand sirens, air horns and other signals for a variety of indoor or outdoor air raid warning applications.

EMERGENCY VEHICLE SIRENS & WARNING LIGHTS

Makers of the new model Q coaster siren. The loudest vehicle siren on the market. Leader of a complete line for every price and purpose.

Makers of a complete line of warning lights led by the famous 360° Beacon Ray.



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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage and Industrial Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single Copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Publications, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1951, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDERICKS; Eastern Representative, ALFRED J. HOUGHTON; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

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BE PREPARED WITH E & J

the resuscitator leading hospitals throughout the world use regularly in their maternity departments

E & J RESUSCITATOR • ASPIRATOR • INHALATOR

With the E&J Portable Model illustrated you can provide hospital-quality resuscitation anywhere, for it has exactly the same precise and reliable mechanism as the famed E&J hospital models. It is approved by the American Medical Association.

Write *now* to E & J for the whole story of E & J Resuscitator features and functions; or better still, request a free demonstration right in your Department so you can examine and operate the E & J yourself.

Asphyxia of newborn infants or very young children is often complicated by tiny or partially obstructed air passages that greatly restrict flow of oxygen to the lungs and the exhalation of breath. Several major features of the E&J Resuscitator combine to overcome this condition and maintain necessary lung ventilation.

DON'T BE WITHOUT THESE VITAL ADVANTAGES WHEN TREATING SUCH CASES

With the E&J PRECISION FLOW CONTROL the operator can regulate the *flow* of oxygen to the exact amount the partially restricted air passages will accommodate. Because E&J POSITIVE AND NEGATIVE PRESSURES provide mechanical *exhalation* as well as inhalation, there is no dependence on elasticity of the tiny lungs to move used gases past the partial obstruction sufficiently to produce effective exhalation.

E&J PRESSURES ARE FACTORY-SEALED at positive and negative limits proven absolutely safe and highly efficient for use on *any* patient. For this reason there is never any question about proper pressure settings and never any need to resort to reduced pressures at which respiratory efficiency decreases rapidly. *With an E&J, an infant is resuscitated just as efficiently as an adult.*

These E&J advantages are only a few of the many reasons why E&J Resuscitators are consistently selected for use by most leading hospitals and by the outstanding rescue squads of fire and police departments, industrial plants, mines and First Aid Services.

E&J

E & J MANUFACTURING CO.

Glendale 1, California

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New B. F. Goodrich Fire King fire hose 50% stronger, 12% lighter

Stands higher pressures—tested to 600 pounds

FOR years engineers have been searching for a stronger, lighter fire hose cord. A new chemically-produced fiber has now been designed—especially for fire hose. Not affected in any way by moisture, mildew, mild acids or alkalies. Used in new Fire King hose as the cords that go *around* the hose and carry the load under pressure.

Stands higher pressures—In actual laboratory tests, Fire King hose—with the new cord—was found to be 50% stronger than standard hose. Every length of Fire King fire hose is tested to 600 pounds pressure.

Lighter, more flexible—Fire King cord is lighter, more flexible than ordinary fire hose cord, making hose easier to handle and coil in a small diameter. New Fire King hose is 12 to 15% lighter than standard B. F. Goodrich fire hose tested to *400 pounds pressure*.

End protection—Fire King (2½″ size only) has the exclusive patented B. F. Goodrich end protection—an extra ply of hard woven cords extending 12″ from the coupling. Adds 100% more strength to coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

Fire King is available with or without Hydroseal treatment. It's a double jacket hose, available in 1½″ and 2½″ sizes.

Fire King combines all the features of the highest grade B. F. Goodrich fire hose with a brand new feature—Fire King reinforcing cord. The result is a premium fire hose 50% stronger, 12 to 15% lighter, yet only slightly higher in cost.

Departments looking for ways to lower hose costs by getting hose that lasts longer should write for the name of nearest BFG Fire Hose Distributor. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

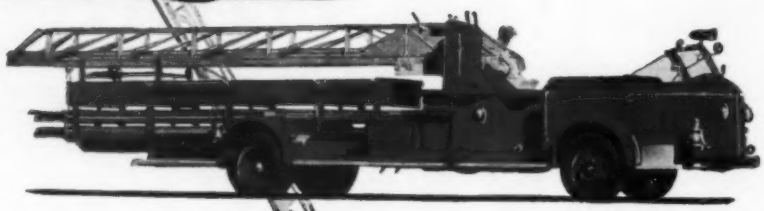
Fire Hose
BY
B.F.Goodrich

THERE'S *Extra Value* IN AERIAL

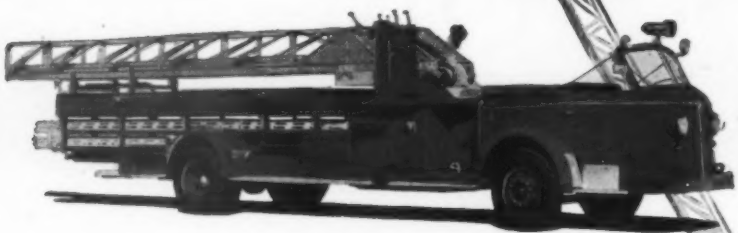
Safer Driving — with Cab-Ahead-of-Engine.
Safer Operation — Visual load indication.
Safer Aerial Ladder — All steel, maximum support.

VISIT our exhibit, Booth 60, at the International Association of Fire Chief's Conference, Grand Rapids, Michigan, August 14-17. The many EXTRA VALUE features of American-LaFrance aerials will be shown for your inspection and demonstration.

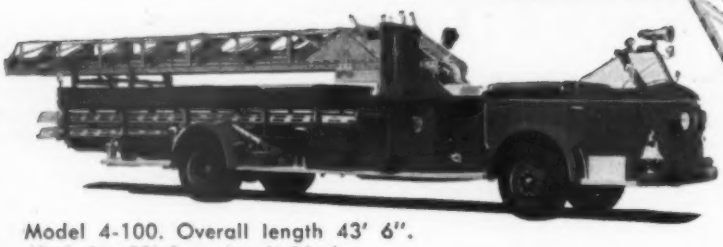
Model 4-65. All steel cab optional extra. 39' 7" overall length (includes 50' 2-section ladder)



Model 4-75. Overall length, 42' 4". (includes 50' 2-section ladder)

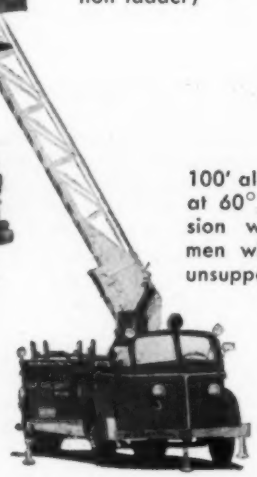


Model 4-85. Overall length 43' 6". (includes 50' 2-section ladder)



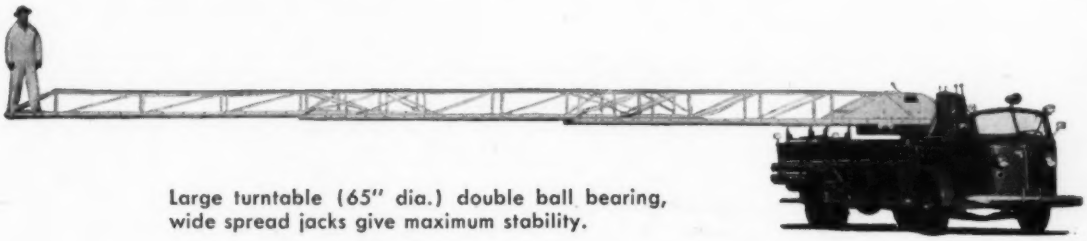
Model 4-100. Overall length 43' 6". (includes 50' 2-section ladder)

100' all-steel aerial at 60°, full extension will carry 5 men with top end unsupported.



AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LAFRANCE FIRE ENGINE AND FOAMITE LIMITED
TORONTO 9, ONTARIO, CANADA

LADDER TRUCKS BY AMERICAN-LAFRANCE



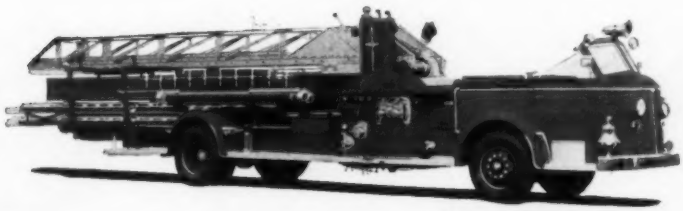
Large turntable (65" dia.) double ball bearing, wide spread jacks give maximum stability.

Low center of gravity permits high speed turns with safety.

Hydraulic levelling device, optional extra, for operation on steep grades. Before levelling on 10% grade.

Ladder levelled with truck on 10% grade. A single control for quick and positive levelling up to 15% grade.

Quintuplet—Available with 65', 75', 85' or 100' all steel aerial. Pump capacities available in all I.A.F.C. ratings.



Tractor drawn aerial—85' or 100' all-steel aerial ladder.

The ninth in a series of advertisements giving the EXTRA VALUES in American-LaFrance fire engines.

11 PROVEN WAYS

1 M.S.A. PNEOLATOR

Because the Pneolator is the nearest automatic approach to natural respiration it assures maximum chance of recovery in all cases of arrested breathing. Providing oxygen for the lungs at the pre-selected amount and pressure, the Pneolator breathes for the asphyxiated patient—aids the patient to full recovery. There is no "suction" cycle. Exhalation takes place by the normal passive return of the respiratory muscles. The Pneolator's intermittent positive pressure is effective in treating patients whose lungs are irritated by corrosive gases. Immediate change over to inhalator when the patient starts breathing.

Light in weight, the Pneolator can be conveyed immediately to the patient . . . conserving the vital minutes that may make the difference between recovery and tragedy. Ask for Bulletin No. CH-2, and a demonstration.

NOTE: The first few minutes after breathing has ceased are the most critical. Immediate application of manual artificial respiration should be started and continued until Pneolator is in use.

4 M. S. A. DEMAND MASK

Supplying compressed oxygen or certified pure air from a back-carried cylinder to facepiece, the M.S.A. Demand Mask provides complete breathing protection for a minimum of 30 minutes in toxic or oxygen-deficient atmospheres. Simple to use, completely dependable. U. S. Bureau of Mines Approved. Bulletin No. B-20.

5 M. S. A. OXYGEN THERAPY UNIT

Compact, easily operated, this instrument provides a dependable and effective means of supplying oxygen to the victim under control of his own breathing demand. Ideal for smoke inhalation, it can be used with any standard oxygen cylinder. Accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association. Bulletin No. CW-3.

6 M. S. A. ALL-SERVICE MASK

For fire-fighting efforts in air c
taminated with smoke and gas,
where sufficient oxygen is pres
to support life, the "All-Servi
Mask assures dependable bre
ing protection to the wearer. Av
able with the M.S.A. "Clearto
Speaking Diaphragm for cl
speech transmittal. Bulletin N
EA-8.

7 M. S. A. EXPLOSIMETER®

A compact, portable, easy-to-
instrument for checking suspec
areas for explosive gases a
vapors during fires and in gen
survey work. Body carrying str
and one hand operation per
unhampered use. Easily read d
rugged, simple to maintain. B
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Representatives in Principal Cities in Mexico, Central and South America—Cable Address: "Minsaf" Pittsbur

to increase Your Fire Fighting Efficiency and Safety

2 M.S.A. CHEMOX®

Firemen equipped with the Chemox can enter and work in unbreathable or oxygen-deficient atmospheres with complete respiratory safety, because Chemox makes its own pure oxygen as the wearer breathes, from a replaceable chemical canister. Non-fogging lenses—no high pressure cylinder lines, or fittings. U. S. Bureau of Mines approved for 45 minutes minimum service per canister. Bulletin No. B-14.

3 M.S.A. STREAMLINED FIREMAN'S HELMET

Made of one-piece high pressure molded laminated bakelite, this popular helmet offers maximum protection against bumps and blows. It is light and comfortable to wear; withstands heat, water and chemicals; provides high dielectric strength against electrical hazards. Soft leather sweatband, adjustable crown hammock, self-ventilating. Bulletin No. DX-9.

8 M. S. A. FIRST AID KIT

Designed to meet all the requirements of fire department service, contents of the M.S.A. Kit are protected against dust, dirt, and moisture. Features a complete supply of emergency treatment for immediate application. Unit packages permit quick location, and economical replacement. Bulletin No. FA-100.

9 M. S. A. FOILLE SPRAY KIT

This kit is supplied with an efficient spray gun for quick application to burned areas, promptly easing pain and aiding in the control of shock. An ample supply of Foille in jars which connect to the spray gun and a complete assortment of first aid dressings and accessories are assembled in a weather-proof steel case. Bulletin No. FA-1-A.

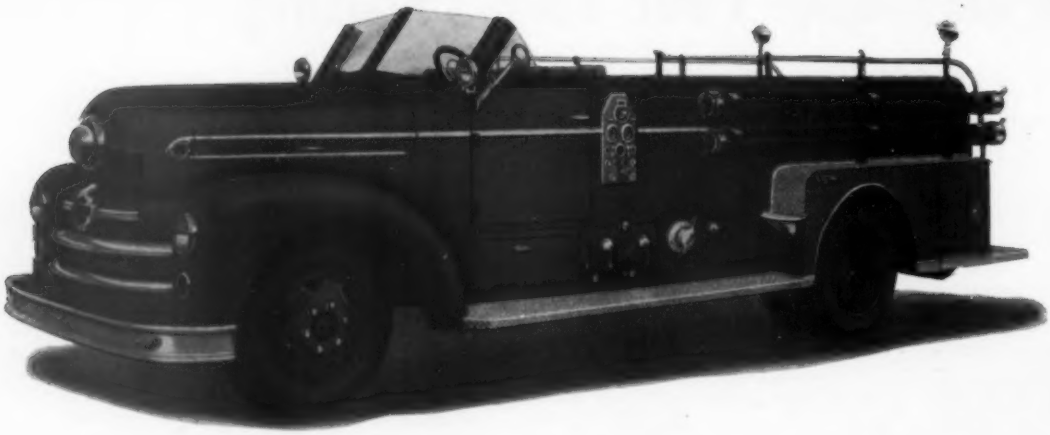
10 M. S. A. FLOOD LAMP

Safe in gaseous atmospheres, this lamp combines brilliant, unfailing illumination with easy portability. Equipped with standard Edison Batteries in magnetically-locked steel container. Lamp housing is water and dust proof. Bulletin No. M-10.

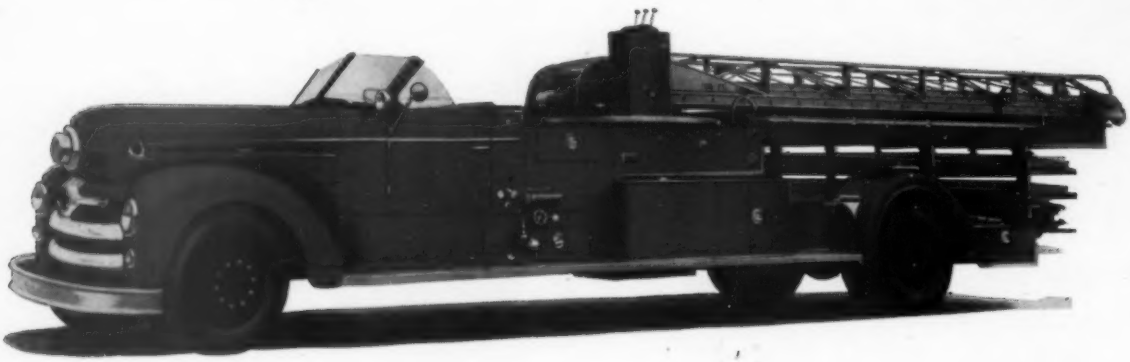
11 Call the M. S. A. Man on your every safety problem ... his job is to help you.

MSA
SAFETY EQUIPMENT HEADQUARTERS

You'll find our exhibit in Booths 44 and 45 during the INTERNATIONAL ASSOCIATION OF FIRE CHIEFS CONVENTION. *Come in and see us ... we'll be looking for you.*



70TH ANNIVERSARY MODEL Seagrave LEADS AGAIN



Everyone who has seen the 70th Anniversary Model Seagrave is enthusiastic about its modern, streamline design and outstanding, new features.

And when they drive it they become doubly enthusiastic. Never before has there been fire apparatus that handles with the ease of this 70th Anniversary Seagrave. It is, without a doubt, the greatest achievement in fire truck construction.

The 70th Anniversary Model Seagrave is completely redesigned with modern V-type engine, ample storage compartments, greater space in body of apparatus, improved pump instrument panel, improved ladder locks and suction hose clamps, completely new front end and other features that are exclusively Seagrave.

THE SEAGRAVE CORPORATION
Columbus, Ohio

Bickle-Seagrave, Ltd., Woodstock, Ont.

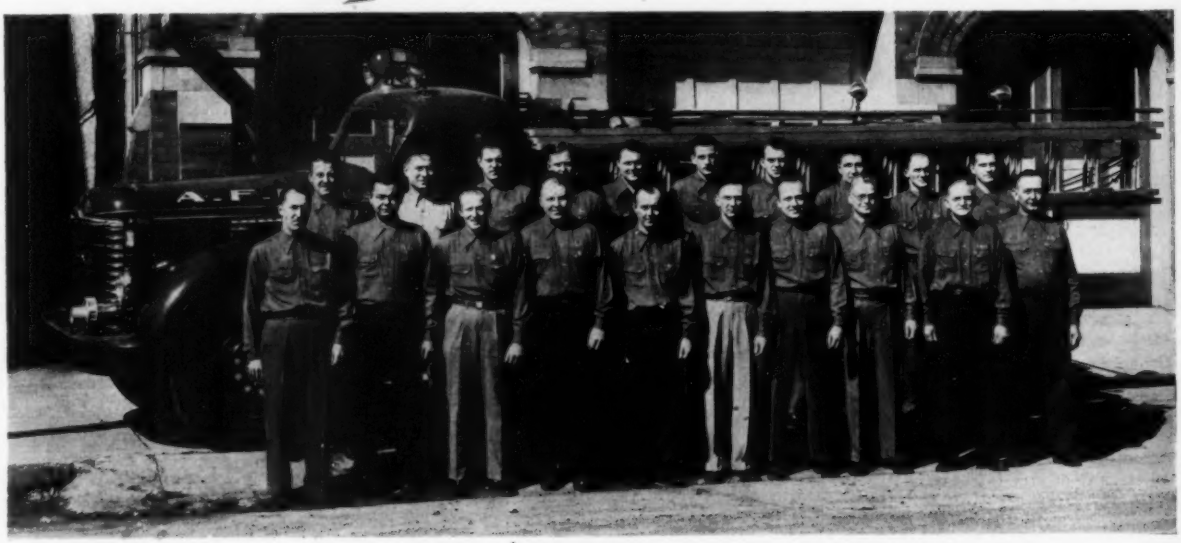
Seagrave

THE GREATEST NAME IN FIRE APPARATUS

A New Light by MARS

TWIN-BEAM—A TWO-WAY, WIDE ANGLE, OSCILLATING, WARNING SIGNAL LIGHT

PROVIDING 360° PROTECTION



ALGONQUIN VOLUNTEER FIRE DEPT.

The Volunteer Fire Dept. at Algonquin, Ill., chooses the Mars DX40 (and Mars Type "G" Siren) because it offers more protection than any other warning signal light. They selected the DX40 on the basis of quality and performance.

You too can provide the same protection for your men and equipment with DX40 for only a few dollars more than you would pay for an ordinary light.

The DX40 Light uses 6-inch reflectors with 50-candlepower lamps, readily available wherever automotive parts are sold. Gives far more light than spotlight type of sealed-beam light.

Send for New Catalog and Prices

MARS SIGNAL LIGHT CO.

New Location—4322 W. Chicago Ave., CHICAGO 51, ILL.

ALSO MANUFACTURERS OF THE FAMOUS MARS FIGURE & OSCILLATING WARNING SIGNAL LIGHT, MARS TYPE "G" SIREN, ETC.

It's MARS from Coast to Coast!

See This Light and Other Mars Products at our Booth at the I.A.F.C. Convention

Please mention FIRE ENGINEERING *when writing advertisers*

Kindly mention FIRE ENGINEERING when writing advertisers

— *and it's as* **RUGGED** - *as it is* BEAUTIFUL!

DEALER TERRITORIES AVAILABLE — WRITE

H & H

FIRE APPARATUS CORP.

725 TONNELE AVE., JERSEY CITY, N. J.

TURN OF RIVER (STAMFORD), CONN., may well be proud of this new H & H Fire Truck. This one is equipped with 600-gallon tank, two electrically operated hose reels—carries 1,000 feet of 1½-inch and 1,200 feet of 2½-inch hose. Has big compartments both sides for fire tools, portable pump or generator. Side rack for Indian Pumps, brackets for extinguishers, etc. All chrome hand rails—and a 500-gallon, 3-stage CHAMPION PUMP that can't be beat.

YOUR TOWN can have the same or any variation of this same job. Fire companies in such towns as New Jersey—Woodbury Heights, Borough of Saddle River, Fairview, Borough of New Shrewsbury (2), Clinton, Milton and Elmer; Long Island—Southampton, Bridgehampton and Northport; Pennsylvania—Palmer Township and Montrose; New York—Mattydale; Maryland—Middle River have already put these new, dependable and efficient H & H trucks to excellent use. We have one similar to job pictured, in stock.

AKRON Multiversal Portable DELUGE NOZZLE

TURNS IN A COMPLETE CIRCLE

A Complete Fire Fighting Necessity of Maximum Capacity and Flexibility

- Greater stream range and projection.
- Complete circular rotation—and 90° elevation swing.
- Self sustaining. Once placed in position and under pressure, needs no further attention.
- Conserves manpower. One man with a 3-hose-line Multiversal Deluge Nozzle is equal to 6 men with 3 separate hose lines.
- Furnished with 3 or 4 inlets.
- Either hand wheel or lever control.

They Deserve the Best . . . AKRON BRASS!

See the Akron Multiversal at the Grand Rapids convention. August 14-17, Booth 48

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

GREATER STREAM RANGE AND PROJECTION

AKRON BRASS
FIRE FIGHTING EQUIPMENT

SPECIAL FIRE SYSTEMS, DESIGNED TO OUT-PERFORM, BUILT TO OUT-LAST

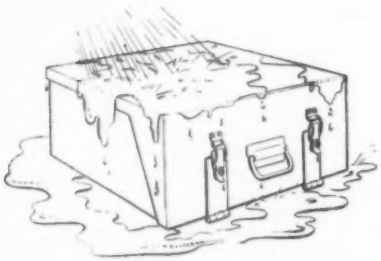
Reliability— in a tough package

WITH MOTOROLA'S
SUPERIOR-PERFORMING,
PERMANENT-SELECTIVITY,
SENSICON CIRCUIT

Fighting fire the modern way requires the plus-performance, locked adjustment efficiency of Motorola Special Fire Equipment. There's 2-way radio you can put through the toughest battles and come up ready for the next call. That's why Motorola is the four to one favorite for fire departments everywhere.

The marvelous Sensicon Circuit, Permakay Wave filter, and seven other exclusive Motorola developments guarantee you better on-the-job performance that stays better year in and year out.

The Specialists in Fire Department Radio Communications



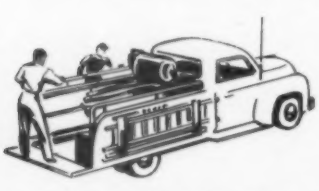
WATER-PROOF HOUSING

Motorola

4545 Augusta Blvd., Chicago 51

DESIGNED FROM THE GROUND
UP FOR THE FIRE SERVICES

CIVIL DEFENSE—See how the famous Uni-channel is teamed up with the CIVIL DEFENSE alerting siren—visit our booth at IAFC Convention at Grand Rapids, Michigan, August 14-17.



ON THE JOB EFFICIENCY

STOP-FIRE INC. TRADE MARK announces the

NEW Redi-grip

ONE HAND OPERATED PRESSURIZED PORTABLE

WITH CBM OR CARBON TET
AND AIR OR CARBON DIOXIDE

FOR A WIDE RANGE OF INDUSTRIAL AND INSTITUTIONAL FIRE HAZARDS

CHEMICAL

TEXTILE

TRANSPORTATION

WAREHOUSE

MANUFACTURING

MARINE

INSTITUTION

POWER PLANT

AVIATION

STOP-FIRE FIRST AGAIN!

Stop-Fire, a leader in research and engineering, is first again with Redi-Grip. This new model was developed from an original design and is now used by the U. S. Air Force.

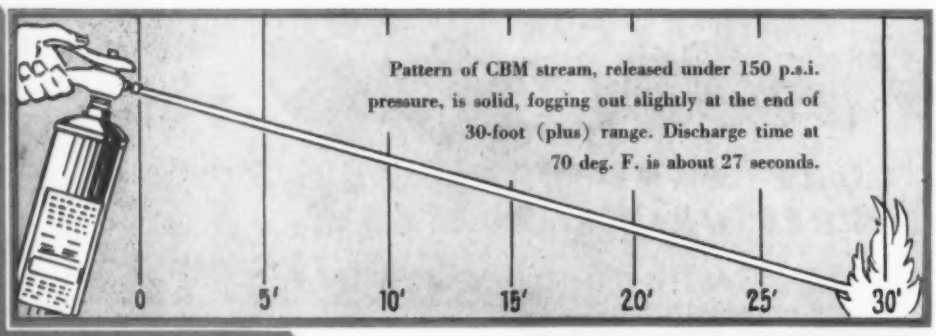
Recommend and specify Stop-Fire REDI-Grip for all fire hazards where instant, positive protection is needed. Remember, anyone can operate the handy REDI-GRIP in a second!

STOP-FIRE, Inc., 125 Ashland Place
Brooklyn 1, N. Y.

NOW IN PRODUCTION
1 QT. - 2½ QT. - 4 QT.

STOP-FIRE'S REDI-GRIP

HAS THE RANGE, PRESSURE AND EXTINGUISHANT TO KILL FIRE FAST



Pattern of CBM stream, released under 150 p.s.i. pressure, is solid, fogging out slightly at the end of 30-foot (plus) range. Discharge time at 70 deg. F. is about 27 seconds.

SUPERIOR FEATURES

REMOVABLE HEAD — Entire head unit may be disassembled for inspection, cleaning or adjustment.

REFILL PLUG — Recharging with new fluid is a simple operation.

GAGE FOR QUICK CHECKING — The Redi-Grip holds its pressure charge over long periods of time. Dial provides quick visual check on condition.

NON-CLOGGING NOZZLE — Fits all standard air chucks.

SAFETY SEAL — Soft copper wire and lead seal prevent tampering, yet break easily for instant operation.

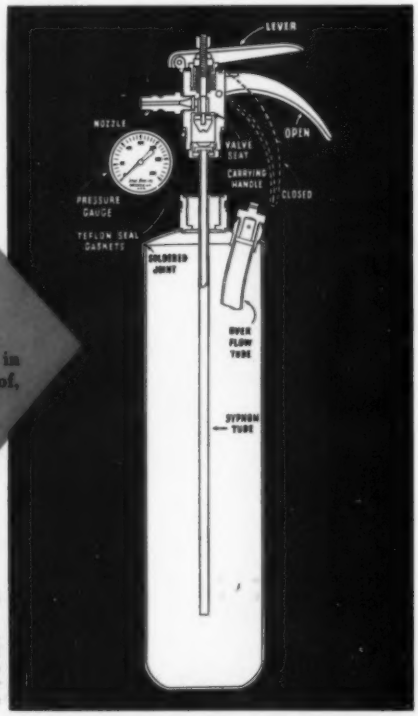
TEFLON GASKETS — This material is highly resistant to extremes in temperature, corrosion and solvents, assuring a positive leakproof, lifetime seal.

SILVER-SOLDERED JOINTS — Clean, neat joints are designed to outlive the brass casing itself.

FLEXIBLE SYPHON TUBE — This assures maximum discharge of contents from any angle.

BURST PRESSURE 1200 P.S.I. — Hydrostatic tests prove Redi-Grip withstands pressures up to 1200 p.s.i. far in excess of specifications.

DRAWN BRASS SHELL — Exterior coated to resist solvents, humidity, sand, salt spray, dust and corrosion.



INQUIRIES INVITED

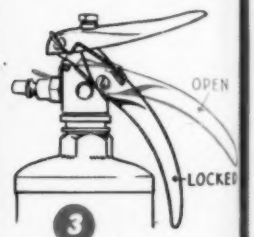
Our engineering department will be glad to analyze your fire hazards problems for aircraft, automotive or marine use.

1

Redi-Grip is removable from bracket with one hand, ready for instant use. Overall size 1 Qt. 15" x 3⅜" x 4½". Weight approximately 6 lbs.

2

Redi-Grip operation is simple. Lift out of bracket, squeeze lower grip to break safety seal and "shoot" . . . all with one hand.



3

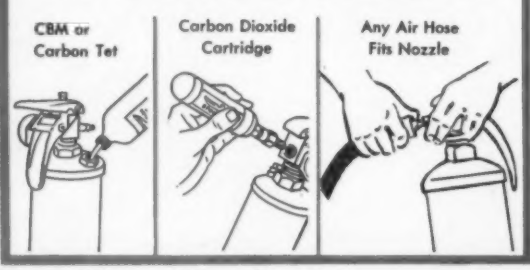
Exclusive, patented safety lock prevents accidental discharge, yet snaps into position for discharge with squeeze-grip pressure on lever.

4

Squeezing lever releases a powerful stream in a split-second extinguishing action. No knobs or valves to turn.

RECHARGING EASY

WITH AIR HOSE OR CO^2 CARTRIDGE UNIT



WIDE RANGE AT MAXIMUM PRESSURE

Over 160 deg. of effective extinguishing action, from one standing position, is an invaluable feature for close fire fighting. A positive minimum of non-effective overhead range.

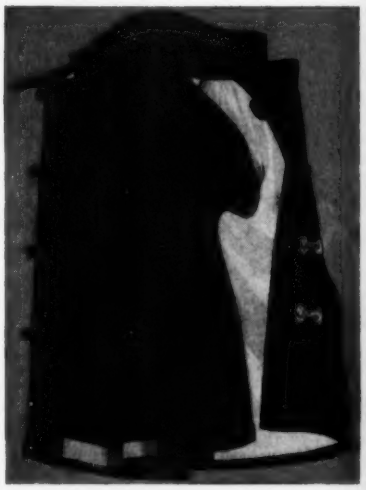
See Your Dealer for the Complete STOP-FIRE Line

PAT. NO. 2,530,583

Friend of the Firefighter!

MIDWESTERN PROTECTIVE CLOTHING

for Men of Action!



Modern fire fighting calls for *specialized* protective clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility of the high-grade materials used are your assurance of long time service and comfort.

Due to government requirements for Midwestern Protective Clothing, it will assist in prompt delivery if you place your order early. For complete information, have your Midwestern dealer show you our full line. A letter to the factory will also bring you material samples for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

TWO-FISTED JOHN BEAN FIRE FIGHTERS

Original High-Pressure Fog Fire Fighters

John Bean Fog Fire Fighter delivers a quick knockout for all types of fires. Offers five important fire-fighting exclusives: (1) carries own High-Pressure water supply; (2) puts out fires faster; (3) clears the way for close-in work; (4) minimizes water damage; and (5) requires fewer men to operate.

NEW John Bean Volume Pumpers

Dependable fire protection is assured by the performance built into the new John Bean Volume Pumpers. You're sure of dependable performance from the rugged, solid-case, multiple-stage John Bean Volume Pump. Automatic pump priming, water-cooled gear case, and simplified maintenance are only a few of the many features of this modern pump.

Kindly mention FIRE ENGINEERING *when writing advertisers*

YOUR First Line of Community Defense

ANY FIRE . . . ANY TIME . . . ANY PLACE! That's the kind of hard-hitting fire protection you get with John Bean Fire Fighters. Ready for instant action on any type of fire, these two-fisted fire fighters ask no quarter, are your first line of community defense. John Bean now offers the famous ORIGINAL High-Pressure Fog Fire Fighter that carries its own water supply—PLUS—a wide range of Volume Pumpers—PLUS—the sensational HPV Models that combine High-Pressure Fog with Volume. See these exciting new fire fighters at the International Association of Fire Chiefs Convention this month, or write today for complete information.

Versatile John Bean HPV Models

Get all the fire-fighting advantages of High-Pressure Fog and Volume at the same time with the sensational new John Bean HPV Models. Ready for instant action with their own High-Pressure water supply. Rugged John Bean midship-mounted, multiple-stage volume pump available in 500-, 600-, or 750-GPM capacities. Famous John Bean High-Pressure Pump operates alone or with volume pump.

JOHN BEAN *TWO-FISTED* FIRE FIGHTERS

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 126, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 409 JULIAN ST., SAN JOSE, CALIF.

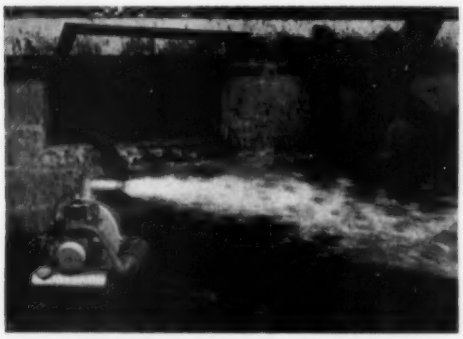
BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

You Get Uniform Dependability with these THREE HOMELITE UNITS

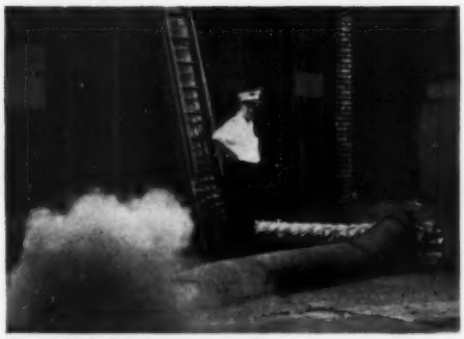
Yes, it really pays to standardize on Homelite Carryable Equipment . . . Generators, Pumps and Smoke Ejectors. Because you get the same dependable performance . . . at all times, in all kinds of weather . . . from all three units.

All are operated by the famous Homelite built-in gasoline engine. They all start the same way. Stop the same way. Use the same fuel. Your men have no trouble running them. And when it comes to service . . . your handy Homelite field branch, stocked with a complete line of standard parts will keep your equipment in perfect condition much easier . . . much more economically . . . than any other way.

For brilliant, close-to floodlighting, use a Homelite Carryable Generator. One man carries it from truck, sets it up and instantly your floodlights are going. No long, hazardous and power consuming cables. No flickering. No operating troubles . . . because a Homelite is waterproof, dustproof, weatherproof, foolproof.



For overhauling, pumping out flooded cellars . . . or for feeding booster tanks or fighting field, forest or other rural fires . . . use a Homelite Gasoline Engine Driven Pump. Handles up to 15,000 gallons per hour with plenty of pressure. Light enough for one man to carry. Automatic self-priming. 28 foot suction lift. Non-clogging. Completely weatherproof and dustproof.



To get rid of dangerous smoke and toxic gases . . . to give your men greater safety and speed their work . . . use a Homelite Gasoline Engine Driven Smokejector, the first and only *Carryable* Smokejector that does the work of larger truck-mounted units. Small enough for use in even confined quarters, it handles large volumes. One man can operate it. And it can be stored or carried in a small pick-up truck.

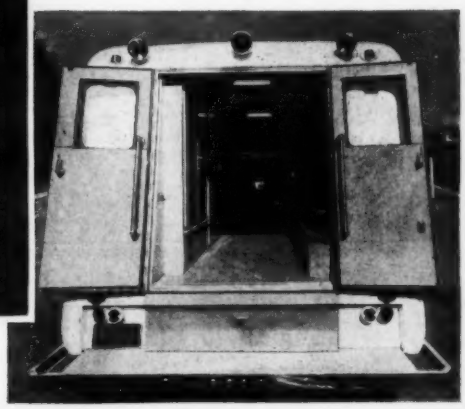
Manufacturers of Homelite
Carryable Pumps • Generators
Blowers • Chain Saws

PERFORMANCE · DEPENDABILITY · SERVICE

HOMELITE CORPORATION

308 RIVERDALE AVENUE • PORT CHESTER, N. Y.

Below — this rear view shows the space available for cots, supply cabinets, and driver with assistant.



a new RESCUE CAR for today's requirements ...now ready for DEMONSTRATION

Detailed study of today's public safety requirements has resulted in the advanced Rescue Car illustrated on this page. Although all Gerstenslager Rescue Cars are built to individual specifications this exhibition model demonstrates the provisions which can be made for needed rescue equipment. Gerstenslager sales engineers throughout the U. S. A. are equipped to help you obtain a Gerstenslager Rescue Car to meet your specific requirements.

Above — left hand side showing compartments for respiratory apparatus. Below — right rear view; below at left — compartments for lighting and acetylene cutting equipment.

COAST TO COAST

The GERSTENSLAGER Co.

WOOSTER, OHIO ESTABLISHED 1860

BRAXMAR

The best known name in

BADGES

Standard Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service. Write for latest circular.

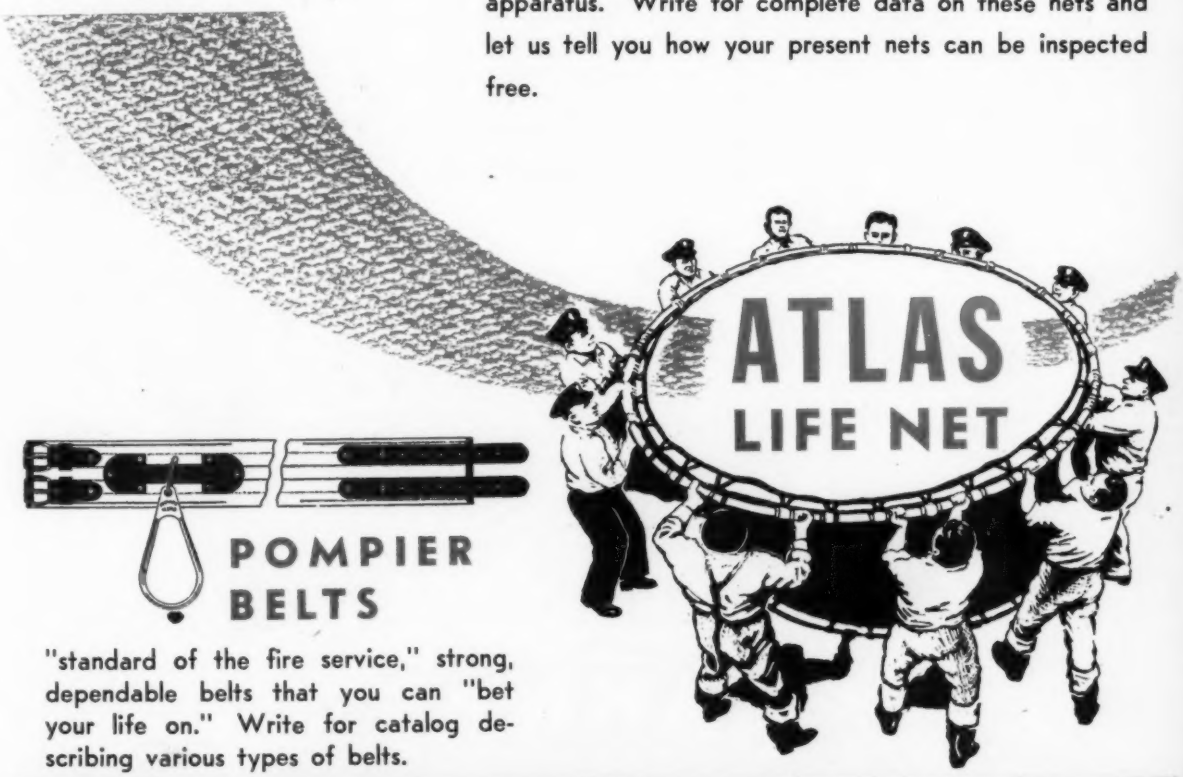
THE C. G. BRAXMAR CO., Inc.

JOHN O. VEIT, PRESIDENT
216 EAST 45th ST., NEW YORK 17, N. Y.

The International Hero of a thousand rescues. "The finest life nets ever made." Always Specify —

LIFE *is a matter of minutes*

when it comes to fire rescues. The saving of those lives is your first line of duty. That's why many chiefs have a life net on all apparatus, so that it will be at the scene of the fire with the first piece to arrive. That's when nets are needed most. The choice of many chiefs is ATLAS and for good reason. It is the only up-to-date, thoroughly modern life net made. Its dual shock absorber system with strong spring recoil mechanism absorbs much of the shock of impact, thus protecting your men as well as the rescued. Nets are made in half or quarter fold and every apparatus builder will gladly provide compartment space, if you will specify an ATLAS LIFE NET on all new apparatus. Write for complete data on these nets and let us tell you how your present nets can be inspected free.

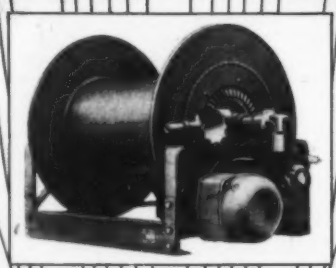


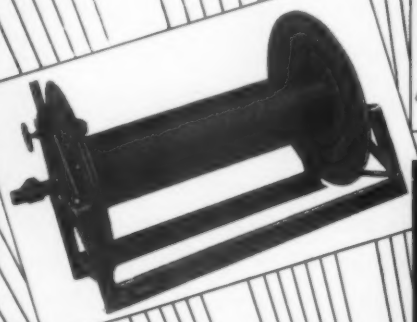
POMPIER BELTS

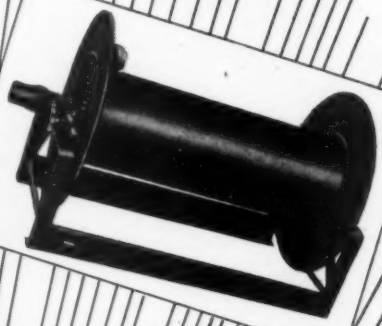
"standard of the fire service," strong, dependable belts that you can "bet your life on." Write for catalog describing various types of belts.

ATLAS *"The World's best life net"*
27 Warren Street, New York 7, N. Y.
SAFETY EQUIPMENT CO., Inc.

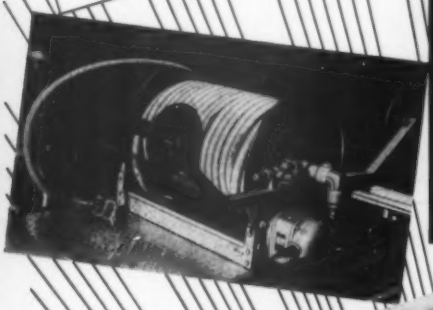
No Finer Hose Reels Made!

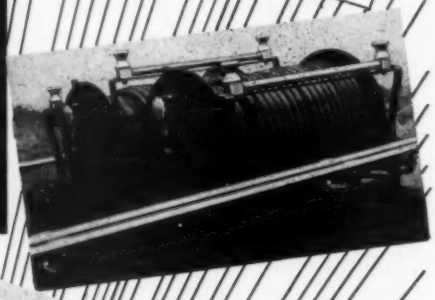


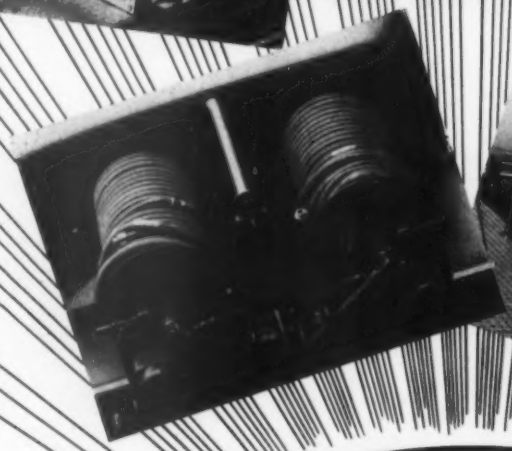


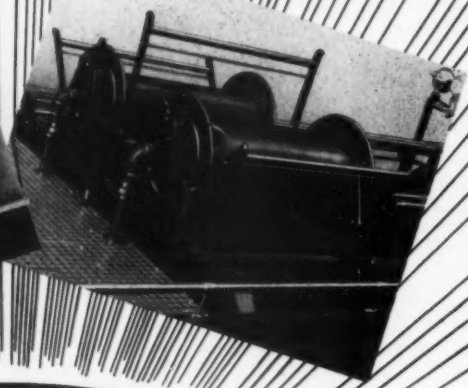


Acceptance of Hannay Hose Reels by the nation's foremost fire fighting equipment manufacturers is the best endorsement of this superior equipment









See the New HANNAY HOSE REEL with EXPLOSION-PROOF MOTOR

HANNAY
REG. U. S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

ASK YOUR SUPPLIER
or write direct for full information.

RIDE *before you decide!*

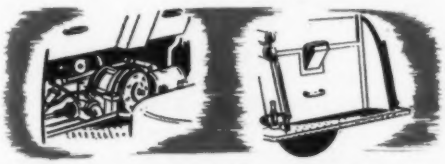
The Bruco Pumper

BRUCO

BRUMBAUGH BODY COMPANY ALTOONA PENNA

Compare the features of Bruco PUMPER
(as shown above)

1. 9-man cab—protection and comfort in all-weather.
2. Handy slide-out racks for portable equipment in separate compartments.



3. Easy access to mid-ship pump by simply lifting center seat.
4. Rapid-fill opening on rear of booster tank.
5. Roomy bosebody, easy to work from.
6. Unobstructed all around visibility from cab.
7. Hardware throughout entire cab to be standard to chassis.

Fire Equipment built to your order...

Meets Tests of National Board of Fire Underwriters

You owe it to yourself, your men and your fellow-citizens to investigate the many merits and exclusive features of BRUCO Fire Equipment. Ride before you decide.

Check them all. Carefully consider what every piece of equipment has to offer. GET THE FACTS — GET A DEMONSTRATION—and we're confident you'll get BRUCO.

We spent years of painstaking research in testing, comparing, experimenting—and we sincerely believe we can build to your requirements the finest piece of fire equipment your money can buy — to meet any and every emergency.

FIRST at FIRES — BRUCO — FIRE EQUIPMENT

WRITE TODAY

Tell us what you have in mind, and we'll gladly give you our ideas and suggestions without cost or obligation.

Brumbaugh Body Co., 100 W. Plank Rd., Altoona, Penna.

Squad Trucks • Emergency Trucks • Pumpers

When Disaster Strikes!

DUAL FIRE FIGHTER

Will relay 175 G.P.M. through 300 ft. of 2½" hose to the top of a hill 50 ft. high — enough water to supply a truck pumper operating two ½" nozzles at 100 lbs. pressure. Will fight fires direct throwing 100 gal. at 80 lbs. or 88 gal. at 88 lbs. pressure. Ask for bulletin 9-FD-11.

GORMAN-RUPP O. S. C. UNIT

A complete apparatus for cleaning septic tanks, fire fighting, sprinkling or transporting water. Ask for bulletin 7-ST-11.

Civil Defense organizations must be ready and organized so as to be able to take effective action -- on the spot. The responsibility rests upon the municipality to have proper equipment ready. War would increase the problems but, even in peace, disaster by natural cause must be considered.

Fire! An adequate supply of water must be available regardless of broken or bomb blasted water mains. The Gorman-Rupp Dual Fire Fighter will relay water to the truck pumper or it will fight fires direct. Easily portable -- weighs only 162 lbs.

Water Transport! If water must be hauled from some distance, the Gorman-Rupp O. S. C. Unit is invaluable. The 1000 gal. tank can be filled in a few minutes at a water source and the truck unit is on its way to the fire. This unit is always ready to operate as an emergency fire fighting outfit or for disposing of filth.

Flood! Rain, bombings or sabotage may cause floods resulting in destruction of property, polution of water and possible disease epidemic.

PUMPS FOR DISASTER RELIEF

Dependable pumps are of vital importance in assuring water supply for fighting fires, in draining flooded areas and washing down walls, pipe lines, machinery, etc., to remove filth and protect against disease.

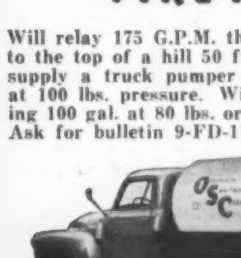
Gorman-Rupp makes a complete line of centrifugal pumps suitable for all manner of disaster control and they are dependable -- **they will not fail.**

Write for information — Let our engineers advise you on your pumping problems.

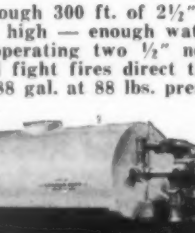
THE GORMAN-RUPP COMPANY

MANSFIELD, OHIO

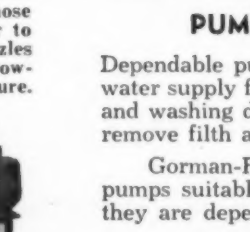
A COMPLETE LINE OF CENTRIFUGAL PUMPS FOR ANY REQUIREMENT



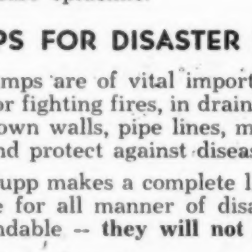
MODEL 5405
H. P. PUMP



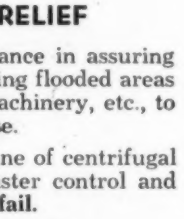
MODEL 5404
H. P. PUMP



MODEL 5507
H. P. PUMP



MODEL 5" FIG. 701
H. P. PUMP



MIDGET 1½"
LIGHTWEIGHT

TRADE PERFEX MARK

"Ranger"

The chemically-flame proofed FIRE FIGHTING TOOL

One of these "Ranger" Fire Fighting Brooms at hand in a critical moment can save tremendous fire loss. It's a tool that combines all of PERFEX'S 25 years of construction know-how with the best obtainable materials, adding up to the best you can buy . . . anywhere!

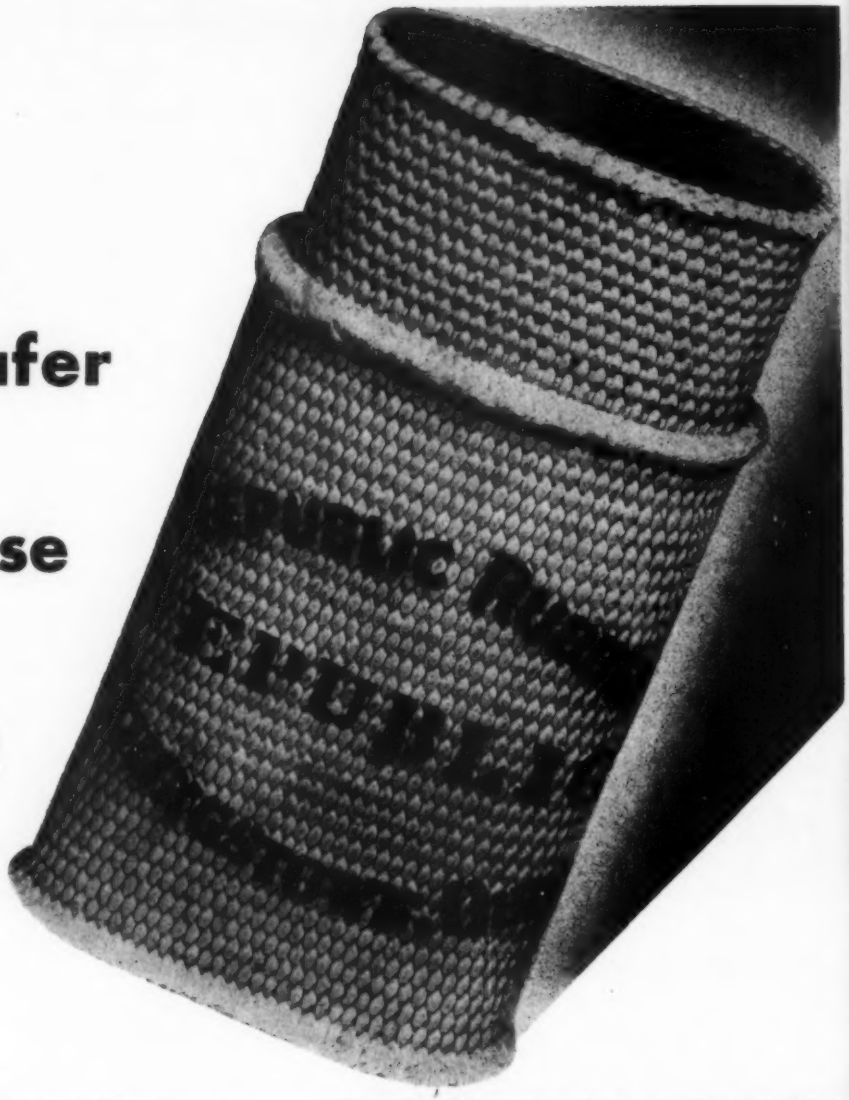
Here is the best Fire Fighting Broom on the market. From the top of its Hickory Handle, right down to the end of its chemically fire proofed fibres, the PERFEX "Ranger" is a dependable, useful and long lasting tool. See the metal collar where the handle joins the heavy gauge metal cap, to prevent this vulnerable point from charring or breaking; the strong construction of the metal cap, handle and fibre assembly, with solid rivets holding the entire broom rigidly together; and the carefully prepared blend of whole and split rattan that makes this broom acceptable for all types of fire fighting, whether grass or underbrush. The fibres are colored Fire Department Red for easy identification.

- Chemically fire proofed solid Rattan fibres. Colored Fire Department red.
- Riveted into heavy gauge rust proof metal head.
- Strong Hickory handles. Metal re-inforced at all points of stress.
- If your dealer cannot suuply you, write, giving your dealer's name and address to:

PERFEX

DEPARTMENT "C" BROOKLYN 8, N. Y.

your city will be safer when you choose Republic Fire Hose



Guarding a city against fire is a big responsibility calling for constant vigil against carelessness. All of your equipment must be ready for action at an instant's notice.

Experienced fire-fighters have confidence in Republic Fire Hose. They know Republic Hose is flaw-proof; that it is made of the finest materials for long, reliable service.

They know, too, that their selection is beyond reproach, because Republic Rubber has been the recognized leader in reliable fire hose for more than 48 years.

These are reasons why today so many cities are protected by Republic Fire Hose. They're reasons why your city will be safer if you, too, choose Republic Fire Hose.

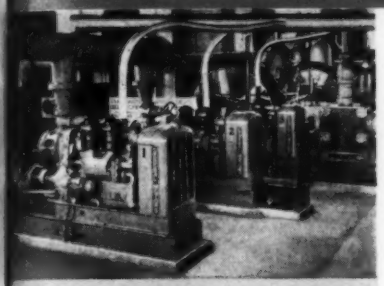
Pioneers in the use of COLD RUBBER

MECHANICAL RUBBER GOODS BY
REPUBLIC RUBBER DIVISION

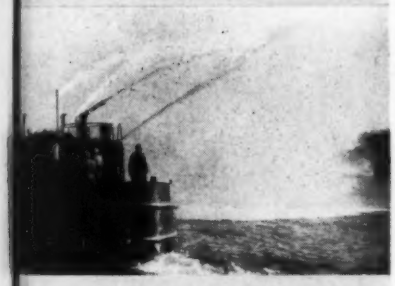
REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION . . YOUNGSTOWN, OHIO
Lee Deluxe Tires & Tubes . . Conshohocken, Pa.

Please mention FIRE ENGINEERING *when writing advertisers*

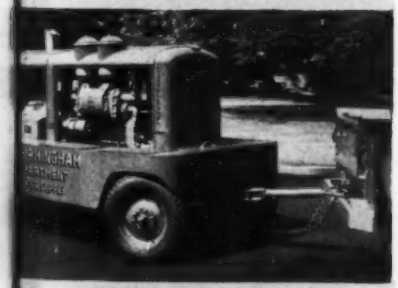
READY TO SERVE IN CIVIL DEFENSE



Water Department of Pontiac, Michigan, has for standby service three 6-cylinder GM Diesel engines connected to pumps with a total capacity of 378,000 gallons per hour.



Chicago, Philadelphia, Houston and other cities depend on GM Diesel-powered fireboats for waterfront and harbor protection. These boats, with 6-, to 12-thousand GPM capacity, are equipped to pump into city mains in emergency.



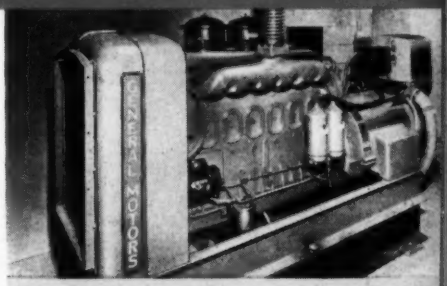
100 KW Portable Generator Set provides standby power to meet emergency water requirements for the entire city of Birmingham, Michigan. Such units with capacities from 20 to 200 KW, powered by compact GM Diesels, can be quickly moved to meet many emergency requirements.

To ASSURE standby power for water supply, lighting and communication in emergencies, many of America's cities, public utilities, defense industries, hospitals, airports and radio stations rely on General Motors 2-cycle Diesel power. Pictured here are a few of the ways these high-powered portable Diesels help safeguard vital public services.

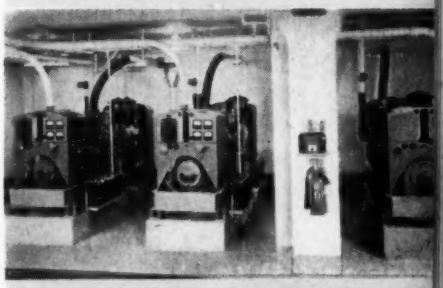
★ ★ ★ ★ ★

General Motors Diesel engines are built in a wide range of models to meet all types of power needs—Series 71 engines, 2 to 24 cylinders, 32 to 800 H.P. and 6-cylinder 110 engine, 275 H.P. For specific information on how these compact, portable Diesels can fit into your Civil Defense plans, *write, wire or phone.*

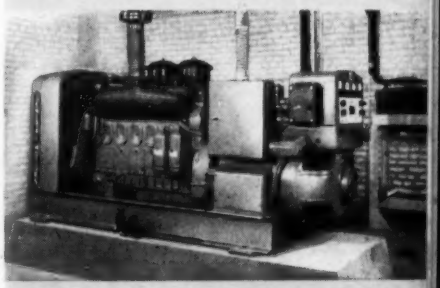
Diesel Brawn without the Bulk



Radio Station WMPS, Memphis, Tennessee, installed this 60 KW GM Series 71 Diesel generating set for emergency standby use. This auxiliary picks up full broadcast load within 3 seconds if power supply drops below a critical point.



Telegraph Office has GM Diesel standby electric generators for emergency service. Similar sets of from 20 to 200 KW can take up normal voltage load of hospitals, defense plants, public buildings and small communities.



Over 800 U. S. Telephone Exchanges are equipped with GM Diesel Electric generator sets, providing a reliable source of emergency power to insure communications.

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES... Up to 275 H.P. **DETROIT 28, MICHIGAN** MULTIPLE UNITS... Up to 800 H.P.

GENERAL MOTORS

GM GENERAL MOTORS DIESEL POWER

your best bet is . . .

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Users

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FALL RIVER, *Massachusetts*
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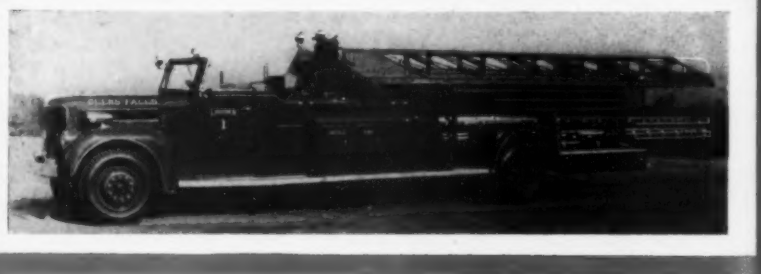
SALT LAKE County, *Utah*
BOSTON, *Massachusetts*

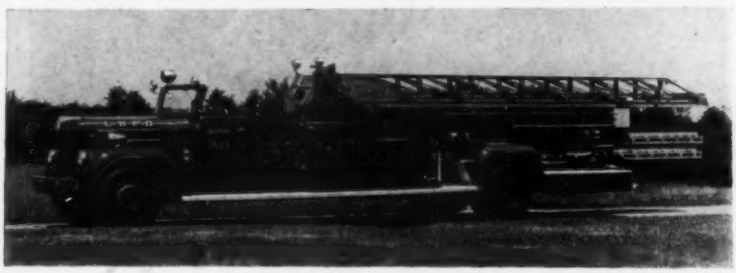
• • ● • •

MAXIM APPARATUS
is available everywhere



ONE OF THE MOST DEPENDABLE

. . . . MAXIM



Unfailing Responsibility

When you select Maxim apparatus, you get the advantages of over three generations of "know-how" in building the finest apparatus money can buy, and more—you can be sure of the unfailing responsibility of the Maxim Motor Company—a fact that has meant a great deal to hundreds of communities who have purchased Maxim apparatus over the past forty years.

Inquiries Invited

MAXIM MOTOR CO.
MIDDLEBORO MASS.

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NONCOMBUSTIBLE OWENS-CORNING FIBERGLAS ACOUSTICAL TILE

. . . is specified more and more. This tile offers a unique combination of values:

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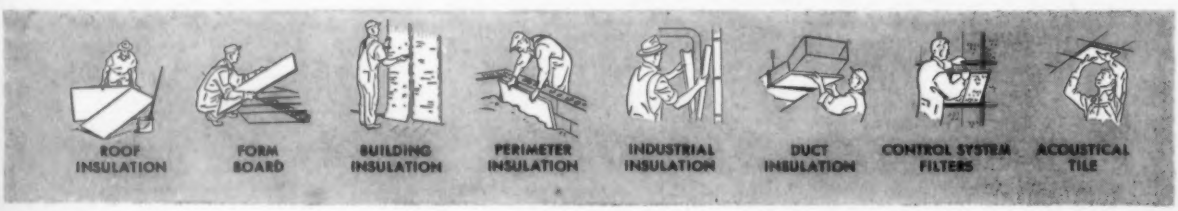
Want the whole story of Fiberglas Acoustical Tile? Ask your Fiberglas Branch Office for the QUIET booklet—or address OWENS-CORNING FIBERGLAS CORPORATION, Dept. 121H, Toledo 1, Ohio.

*(1) Noncombustible under Federal Spec. SS-A-118a.
(2) Noncombustible under Building Codes using ASTM, E 84-50T.



You are Cordially Invited—

to see the
MACK AERIAL *at* GRAND RAPIDS

Among the many dates on your calendar for the I.A.F.C. Conference at Grand Rapids, be sure to make one to see the Mack Aerial on display.

Only by viewing it can you fully realize the strength and fine finish of the rugged Mack chassis. Only through personal observation can you judge the accessibility of its controls, ground ladders and equipment. Only by first-hand examination can you appreciate its potentials for smooth, fast performance—its one-man, jam-proof, all-hydraulic controls—its safety, flexibility and compactness.

No doubt about it—there's nothing like the modern Mack Aerial for advanced design, construction and performance. So see it at the convention—or make a date with your Mack representative to get all the details soon. And just remember, too, that no matter what type or model Mack you put into service, you'll be triply rewarded—not only by the kind of *performance* you get, but by the degree of apparatus *reliability* and *durability* as well. That's why, these days more than ever, it's wise to modernize with Macks.

Mack
FIRE APPARATUS

MACK MANUFACTURING CORPORATION
Fire Apparatus Division
Long Island City 1, N. Y.

Factory branches and distributors for service and parts in all principal cities.
In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS—500 TO 1500 GALLONS...SQUAD AND HOSE CARS...AERIAL, CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

Don't send a boy on a man's errand

Every day fires get out of hand because someone thought portable fire extinguishers were "big enough" to handle a major fire hazard. It's best to play safe with a Kidde Built-In Carbon Dioxide Fire Extinguishing System.

A single Kidde system guards one hazard or several...all day...every day. It can be operated manually or with an automatic installation where the heat from the fire sets off the system, sending clouds of fire-extinguishing carbon dioxide to the danger spot. Power failure can't affect it.

You can recommend a Kidde CO_2 System to protect electrical equipment, flammable liquids, documents or other materials which might be damaged by extinguishing agents.

Next time you have a problem in fire protection... big or small... call Kidde. Our engineers will be glad to help.

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We have been serving the Municipal and Industrial Fire Protection Constantly since 1892 - - - - - - -

The Improved SENSIBLE LUG COUPLING

- NOZZLES
- PLAYPIPES
- HOSE PLUGS
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- STRAINERS
- SUCTION COUPLINGS
- PLAIN HOSE PIPES
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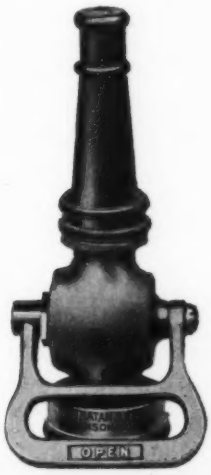
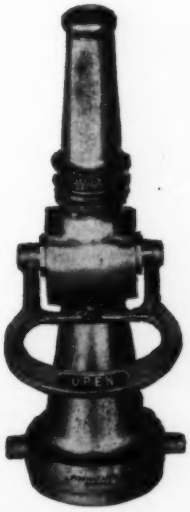


Sachem Leader Line Shut-Off Nozzle



New York Fire Dept. Style Shut-Off Nozzle With Plain Tip

- ADAPTORS
- REDUCERS
- SIAMESE
- GATE VALVES
- SPANNERS
- HOSE EXPANDERS
- HOSE COUPLINGS
- HYDRANT VALVES
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Whatever your needs See the Powhatan Before you Buy!

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Established 1892

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ALBERT E. HANSEN,
Founder 1869-1951

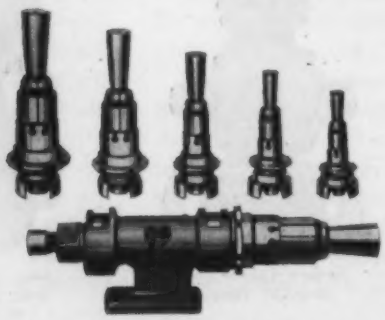
An American Story... The Growth of Elkhart Brass

Back in 1902 with twelve employees—a foundry and a machine shop, Albert E. Hansen, a native of Norway, founded the Elkhart Brass Manufacturing Company. From this modest beginning, Elkhart has grown in size and stature to its present position as the largest manufacturer of portable fire fighting equipment in America. Stories like this have helped make America . . . the progress in fire protection equipment, so extremely important, has found Elkhart Brass a leader who knows no let up!

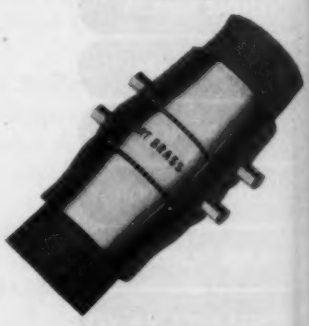
EDWARD H. HANSEN,
President

330 Employees Totaling 1500 Years' Experience Serve Elkhart Customers

The Energy of Youth plus the Knowledge of Experience combine to give Elkhart Brass the brand of leadership that has guided it through half a century of progress.



COMBINATION EXPANDER
Plate C-405



LINEN HOSE COUPLING
Plate 328

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REFIGHTING PROGRESS

Famous "Firsts"
Keynote of Elkhart Brass Progress

As you turn the pages of Elkhart's more than one hundred page catalog you begin to realize how emphatic this firm has been in its desire for constant product improvement. Among the thousands of products shown, many stand out as singular Elkhart FIRSTS: Mystery Fog Nozzle, Jumbo Mystery Nozzle, Mystery Cellar Nozzle, Chief Shut-Off Nozzle, Leader Line Siamese, X-Trude Coupling, Linen Hose Coupling, Combination Expander.

MYSTERY FOG NOZZLE
Plate 200

JUMBO MYSTERY NOZZLE
Plate J-200

MYSTERY CELLAR NOZZLE
Plate LR-200

ELK HART IND

X-TRUDE COUPLING
Plate X-329

LEADER LINE SIAMESE
Plate 100

CHIEF SHUT-OFF NOZZLE
Plate 275

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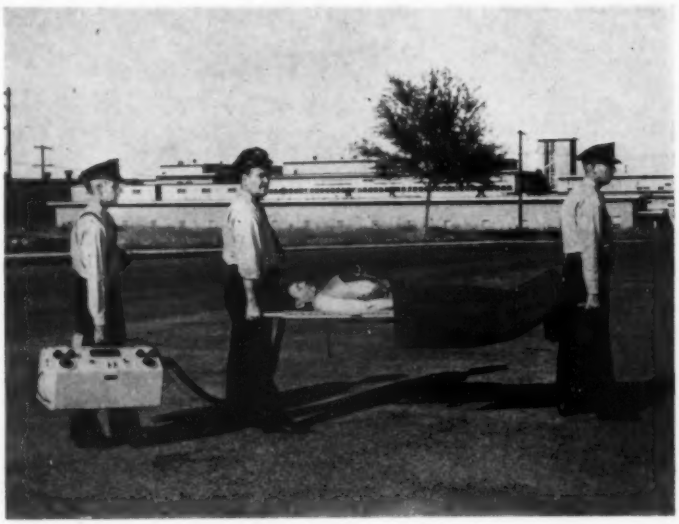

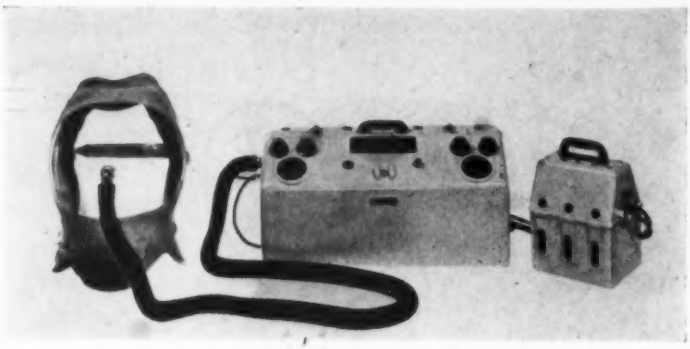

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9 Out of 10 Rescue Squads Prefer the MONAGHAN

★ **30 SECOND APPLICATION—6 GRADUATED SIZES OF CHEST SHELLS**

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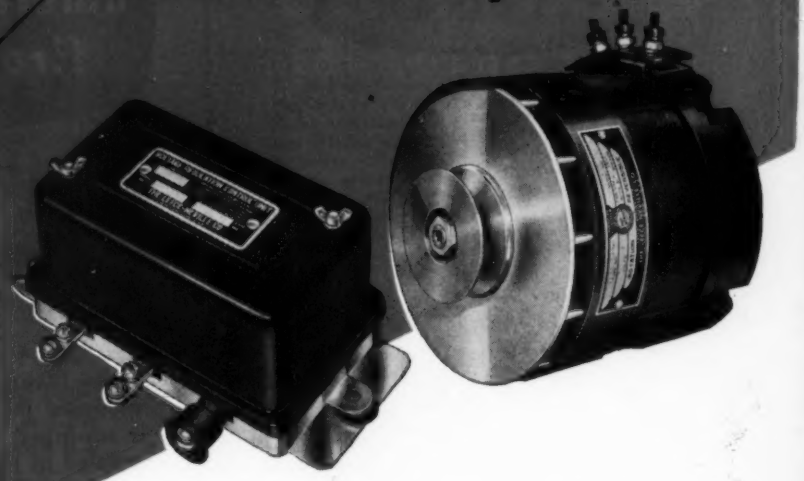
You get 5 proven advantages

when you use the Leece-Neville ALTERNATOR System



1. Surplus Amperage under absolute control at all speeds.
2. Fully charged batteries—no over charging.
3. All electrical units protected, yet operate at maximum efficiency.
4. Long-life assurance to all electrical units.
5. Infrequent maintenance—low cost operation.

☆ There is an L-N electrical system to serve every requirement. Dependability and economy are the inevitable result of their use. Don't operate with less than the best—L-N. Correspondence invited.

BE SURE TO SPECIFY LEECE-NEVILLE

Today your vehicles deserve a better electrical system . . . a system that for years has held the highest reputation for dependable heavy duty performance: The L-N Alternator System.

The modern need for more amperage is soundly provided through the exclusive L-N Alternator System—available in units serving from 50 up to 175 amperes. For years the L-N Alternator System has been in use on thousands of vehicles, delivering ample current for all accessories and insuring full life of batteries.

The "watch dog" of this great electrical system, the patented L-N Voltage Regulator, has all the L-N characteristics of rugged design and construction, plus sensitive control that assure dependable and sufficient electrical output for every type of service.

And like all L-N electrical units, this regulator is so designed and constructed that maintenance adjustments, if and when necessary, are generally practical without recourse to complete unit replacement. *In these days that's important.*

THE LEECE-NEVILLE CO., CLEVELAND 14, OHIO

Leece-Neville

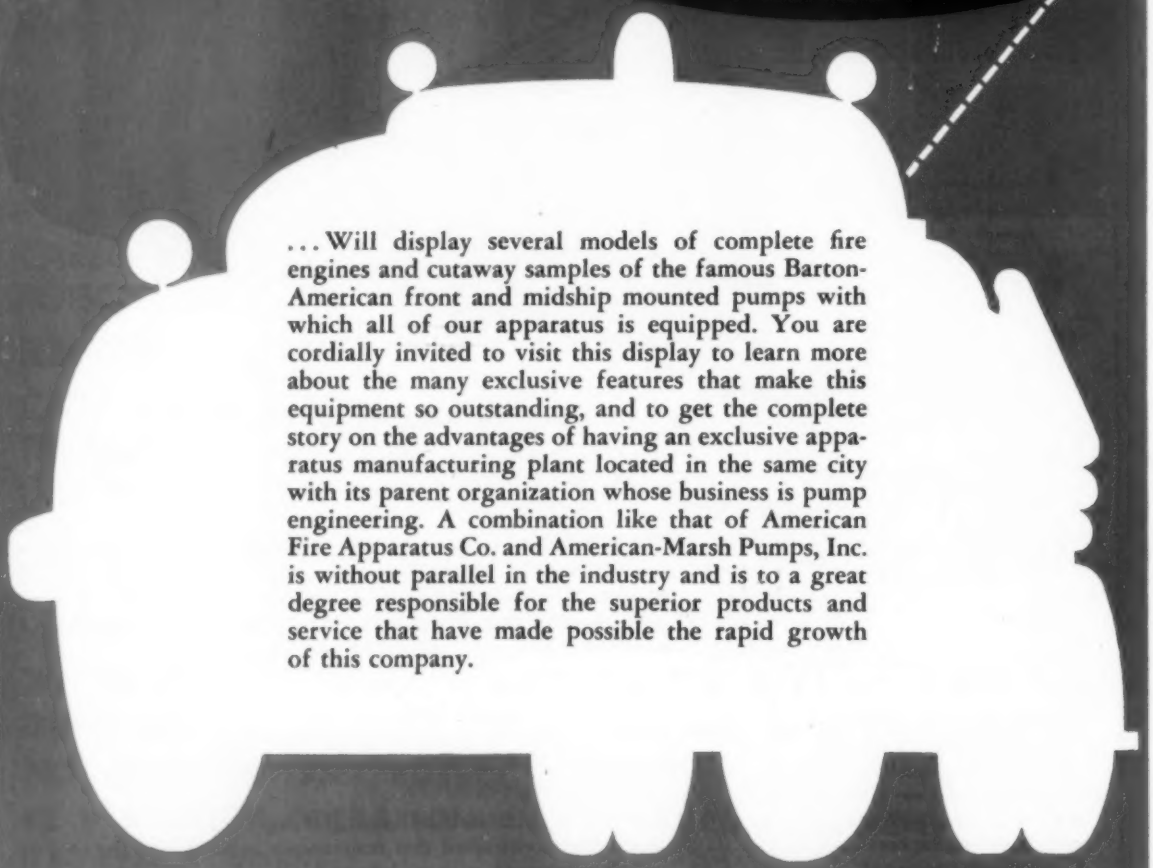
QUALITY ELECTRICAL EQUIPMENT FOR OVER 40 YEARS

Dependable, cooperative service is available in all principal cities.

AMERICAN FIRE APPARATUS COMPANY

OF BATTLE CREEK, MICHIGAN

builders of america's finest fire engines



...Will display several models of complete fire engines and cutaway samples of the famous Barton-American front and midship mounted pumps with which all of our apparatus is equipped. You are cordially invited to visit this display to learn more about the many exclusive features that make this equipment so outstanding, and to get the complete story on the advantages of having an exclusive apparatus manufacturing plant located in the same city with its parent organization whose business is pump engineering. A combination like that of American Fire Apparatus Co. and American-Marsh Pumps, Inc. is without parallel in the industry and is to a great degree responsible for the superior products and service that have made possible the rapid growth of this company.

American FIRE APPARATUS CO.

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A SPECIAL OPEN HOUSE

When you visit the international convention at Grand Rapids, be sure to stop on your way there or back. Our new, ultra modern plant — located just off U.S. 12 on Main Street Road, Battle Creek — will be holding open house, with demonstrations and hospitality for everyone.

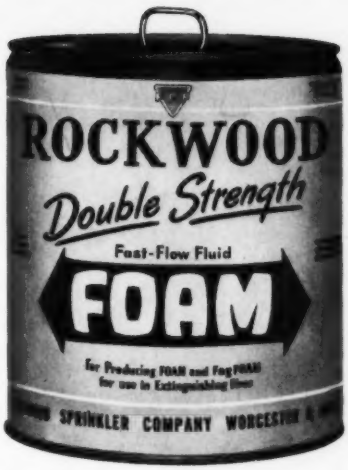
NEW ROCKWOOD FOAM LIQUID
NEW ROCKWOOD FOAM DEVICES
NEW ROCKWOOD METHODS
for APPLYING FOAM TO Gasoline Fires

New Rockwood *Double Strength* FOAM Liquid and FogFOAM devices enable fire fighters to cover burning surfaces faster with a blanket of FOAM that completely seals off combustible vapors. The FOAM blanket will quickly reseal if broken by trucks, hose, foot tracks, etc. The new Rockwood method of applying FOAM to fires involving oil, gasoline and other flammable liquids and materials will extinguish fires with far greater speed and with less work than with old style methods. Rockwood FOAM is designed to give you the most efficient results in fire fighting and to protect apparatus from damage. For complete operating and installation data and prices, write today.

The most efficient way to apply Rockwood FOAM Liquid and wetting agent to most fires is thru Rockwood fire fighting devices.

ROCKWOOD

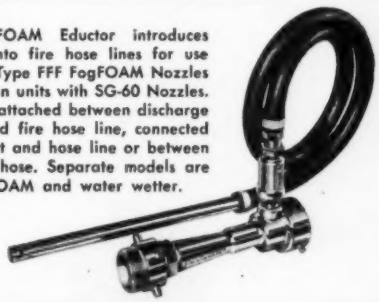
ROCKWOOD SPRINKLER CO.
54 Harlow St., Worcester 5, Mass.
Portable Fire Protection Division

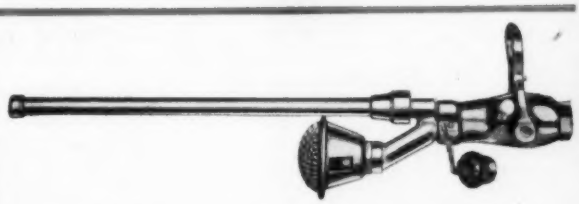


1. Rockwood's new FOAM Liquid produces FOAM and FogFOAM for use in extinguishing flammable liquid fires. It can be automatically mixed with water supplied to the new FFF FogFOAM Nozzle or to the new "FF" Extension by means of the hose line FOAM Eductor — or Rockwood FOAM proportioning systems built into fire trucks. Rockwood regular FOAM is still available for use with Rockwood devices.

2. New *Lightweight* type FFF Rockwood FogFOAM Nozzle with FogFOAM screen. Available in three sizes for service on 1½" and 2½" or 3½" hose. Discharges (1) FogFOAM (with FogFOAM screen) (2) Solid FOAM stream (with FOAM shaper) (3) High velocity WaterFOG pattern.

3. Rockwood FOAM Eductor introduces FOAM Liquid into fire hose lines for use with Rockwood Type FFF FogFOAM Nozzles or "FF" Extension units with SG-60 Nozzles. Eductor can be attached between discharge of fire truck and fire hose line, connected between hydrant and hose line or between two lengths of hose. Separate models are available for FOAM and water wetter.





4. Rockwood *Lightweight* "FF" Extension unit with SG-60 WaterFOG Nozzle attached. The "FF" Extension can be easily attached to a ¾", 1" and 1½" SG-60 WaterFOG Nozzle by simply removing high velocity WaterFOG tip and inserting "FF" Extension. This unit discharges high velocity FogFOAM thru FOAM screen or long range solid FOAM stream thru FOAM shaper — also high velocity WaterFOG, solid water stream or low velocity WaterFOG.

DUO-SAFETY Safety

THREE SECTION

Your Choice of 3!

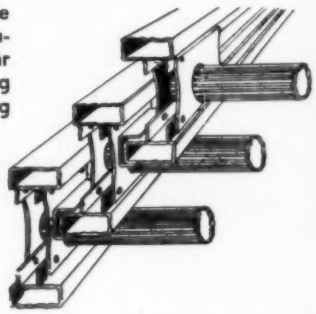
in the DUO-SAFETY LADDER LINE

3 TYPES—3 PRICES—3 PERFORMANCE STANDARDS

Yes, you have your choice to meet your requirements in Duo-Safety's famous line of all-aluminum fire ladders. For pumper use or fire trucks . . . for extra-heavy duty or lighter service . . . and at a price range to fit your budget. Choose the line that gives you the best . . . and that's best for you . . . Duo-Safety. Write for free file catalog.

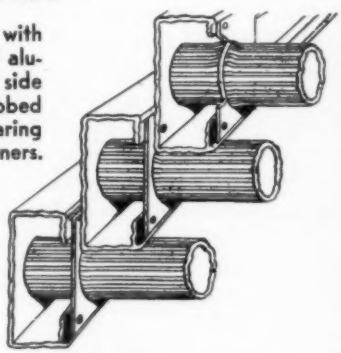
1. SERIES 500 with TUBULAR PRINCIPLE

For service trucks, this great ladder has the strength, lightness, and structural advantages of Duo-Safety's exclusive Tubular Principle. Provides a maximum of climbing space and requires a minimum of banking height. Series 525-A (Three-Section) is illustrated at left. Series 500-A (Two Section), Series 550-A (Wall Ladder) and Series 575-A (Roof Ladder) also available . . . all in a variety of sizes.



2. SERIES 700 — CHANNEL RAIL

For pumper use . . . the 700 Series, with the safety, strength and durability of aluminum, replaces old style, bulky, solid side wood pumper ladders. Has heavily ribbed rungs of extended tubing, non-shearing steel rivets . . . no sharp or jagged corners. Series includes 700-A (Two Section), 725-A (Three Section), 750-A (Wall Ladders) and 775-A (Roof Ladders). All models available in all standard lengths.



3. SERIES 800 — CHANNEL RAIL

Here is the newest Duo-Safety Fire Ladder . . . a companion ladder to the 500 and 700 Series. With the exception of the use of heavier rails, the Channel Rail construction is identical to that of the 700 Series. Exceptionally sturdy all-aluminum construction make the 800 Series an extremely popular fire ladder. The 800 Series includes the 800-A (Two Section), 825-A (Three Section), 850-A (Wall Ladders), 875-A (Roof Ladders) . . . all available in all standard lengths.

DUO-SAFETY LADDER CORPORATION

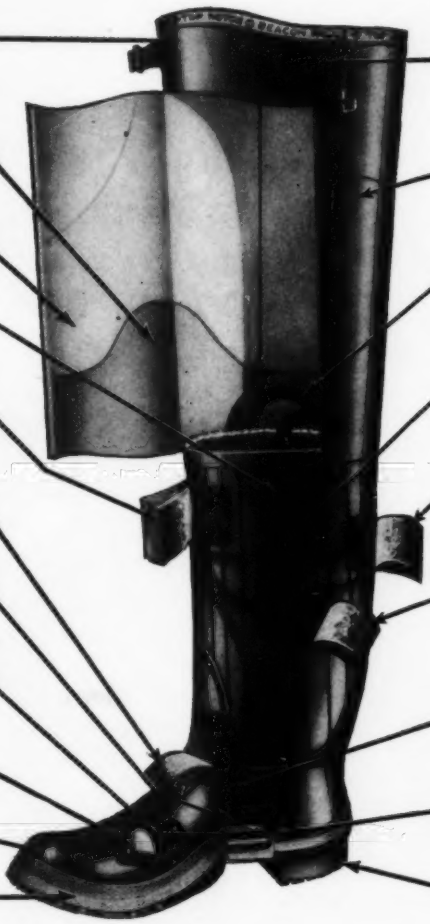
811 Ninth Street . . . Oshkosh . . . Wisconsin

only one fireman's boot . . .

Has 20 Advantages!

SIREN

TOP NOTCH SIREN



- SPECIAL HIP WITH HIGH FRONT SKIRT, ALSO IN SHORT HEIGHT.
- THICK GAUGE INSIDE GUM KNEE PATCH OF CREPE RUBBER - PREVENTS SHARP CRACKING.
- NET LINING FOR AMPLE STRETCH THROUGHOUT THE ENTIRE SKIRT.
- WARM WOOL LINING THROUGHOUT.
- SPECIAL STIFFENING COLLAR TO MAKE IT EASY TO GET INTO THE BOOT.
- FOURTEEN PLIES OF FABRIC AND RUBBER WITH SPECIAL THROAT STAY.
- WARM FELT LINING, FELT COVERED, CUSHION INSOLE.
- REINFORCED LADDER SHANK, CAREFULLY SHAPED TO FIT THE FIREMAN'S FOOT.
- NINE PLIES OF FABRIC AND RUBBER AT THE VAMP.
- REINFORCING TOE CAP PROTECTION.
- EXTRA THICK SUPER-QUALITY SOLES.
- STORM KING LENGTH IS 3" HIGHER THAN THE USUAL, GIVING MORE PROTECTION - QUICK ADJUSTMENT.
- OUTSIDE, EXTRA RUBBER REINFORCEMENT.
- STURDY PULL-ON LOOPS, ON BOTH SIDES.
- THIS ENTIRE BOOT IS VULCANIZED BY AMMONIA CURE - A PATENTED, EXCLUSIVE FEATURE.
- SIX PLIES OF FABRIC AND RUBBER HERE.
- SEVEN PLIES OF FABRIC AND RUBBER HERE - A "SHINGLED" CONSTRUCTION WHICH DISTRIBUTES THE STRAIN. RESISTS SNAGGING AND GIVES MUCH LONGER WEAR.
- MADE OVER A SPECIAL LAST, FULLER THROUGH THE ANKLE AND INSTEP.
- THICK SIDE GUARDS AT SHANK, GIVING PROTECTION AGAINST NAIL OR SPLINTER PUNCTURING.
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BEACON FALLS RUBBER FOOTWEAR

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ONLY *Safety First* OFFERS...

Fast Acting, Highly Effective Dry Chemical Fire Extinguishers From

2½ lbs. to 30 lbs.

The exclusive Safe-T-Meter gauge tells you at a glance it's **Ready To Go!**

A LEADER IN DESIGN AND ENGINEERING

Safety First, a leader in design and engineering of fire fighting equipment, still leads the field with the largest, most versatile line of fast-acting, highly effective Hand Portable Dry Chemical Fire Extinguishers! This complete line of 9 powerful, sturdily-built sizes ranging from 2½ to 30 lbs., offers an extinguisher for any price or need. Available in the regular industrial type or the revolutionary pressurized Safe-T-Meter model with the exclusive visual gauge for on-the-spot inspection.

NEW RECHARGE CYLINDER MAKES PRESSURIZING EASY!

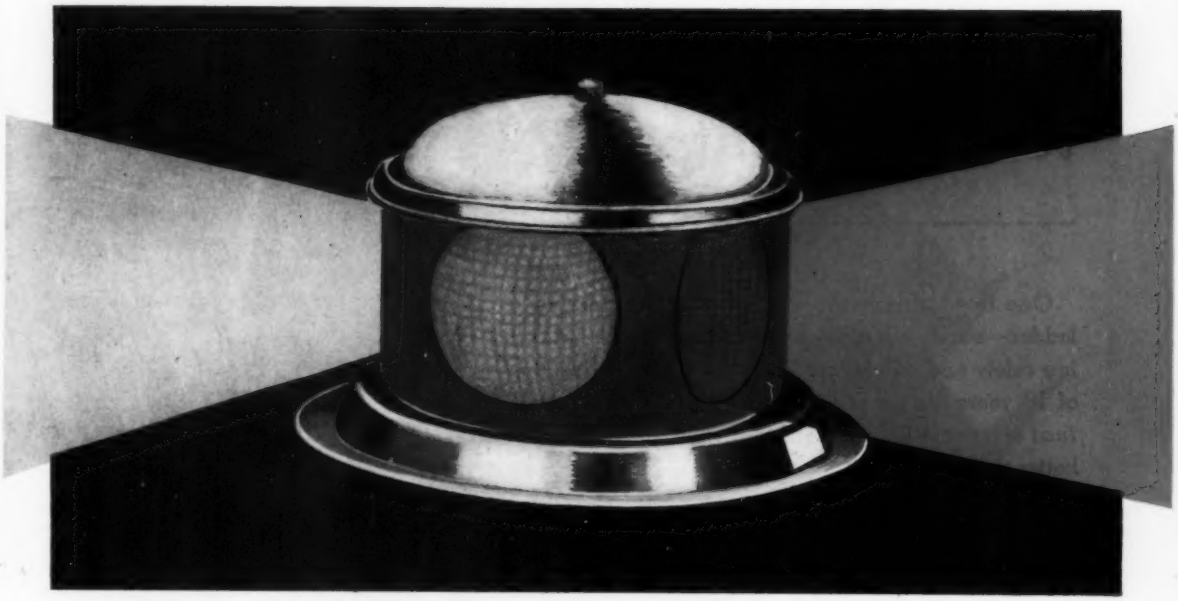
Just follow simple directions on recharge cylinder label... no tools or technical knowledge is needed. When cylinder is expended return to your Safe-T-Meter dealer for replacement.

SAFE-T-METER FEATURES! Approved Underwriters' Rating, Pressure Gauge Tells Status Of Extinguisher At A Glance, Can Be Used Intermittently, On-The-Spot Refilling, No Tools Required

Safety First PRODUCTS CORP., ELMSFORD, N.Y.

"CIRCLE BEAM"

Nothing Moves But The Beam



DEVELOPED in the laboratories that lead the world in flashing-light research, "CIRCLE BEAM" gives protection forward, to the sides and rear of the vehicle. It uses high-intensity standard sealed-beam lamps, easily replaced. It has low battery drainage, negligible maintenance, and no moving or complicated parts in the light to get out of order.

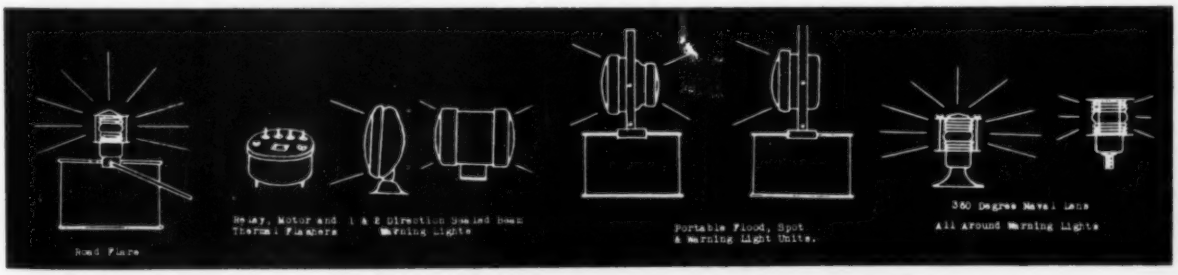
The individual flashes last long enough so that a motorist can estimate the distance to approaching apparatus, *and get out of the way in time.* Available with the highest powered beam forward but with adequate intensity to the sides and rear. This prevents blinding the drivers of trailing apparatus. By the use of synchronized flashing a double beam of light emitted which moves around as the adjacent lamps are flashed.

Made in two sizes, for chiefs' cars and trucks, and available in two styles, surface (cab top) or stanchion mounting.

New but already tested, proven and accepted by fire departments throughout the country.

"Engineered Lighting for Fire Fighting"

JULIAN A. McDERMOTT CORP. 40-22 NATIONAL ST., CORONA, N. Y.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Portable Flood, Spot & Warning Light Units.
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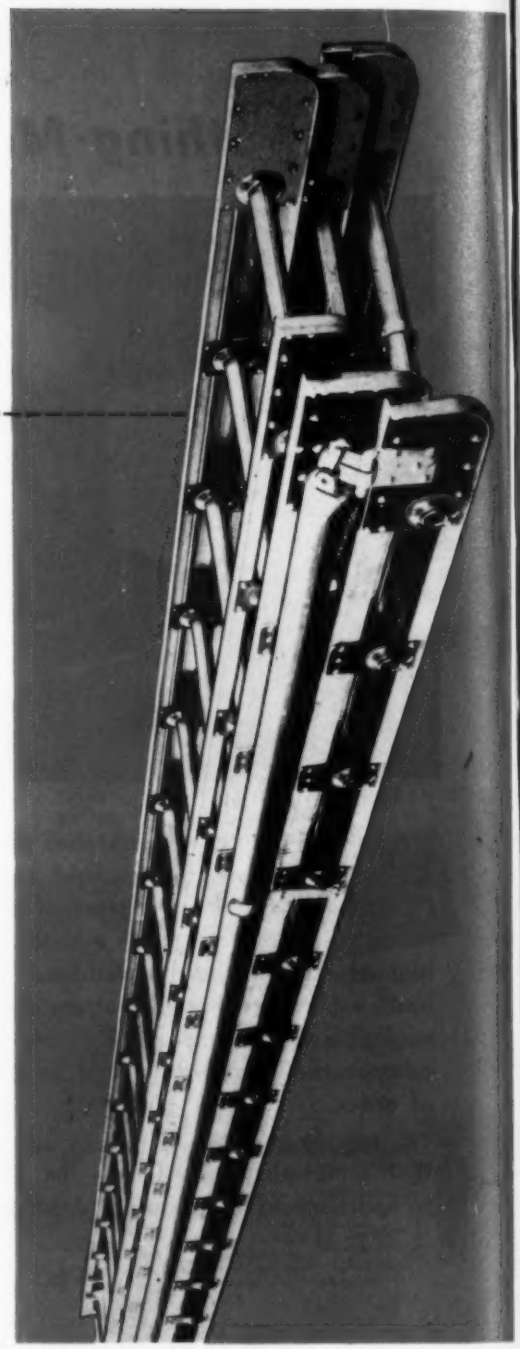
A Few of a Full Line of Lighting Products for Fire Departments and Civilian Defense.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

one ladder

that stands up to *every* test



One fire ladder—the *original* aluminum fire ladder—stands out today as the leader in fire-fighting safety and efficiency. The experience, the *test* of 18 years has proved beyond all doubt that *original* aluminum ladders perform better and stand up better than any other type of ladder.

Built of strong, light ST61 aluminum alloy these ladders are designed for fast, easy placement in confined spaces, using fewer men than cumbersome wooden ladders. Original aluminum ladders are *rugged*—require no care—and are splinter-proof, spark-proof, rust-proof and practically *wear*-proof.

Adding to the endurance and safety inherent in aluminum construction are the dozens of details of engineering and fabrication which distinguish *original* aluminum ladders from any other fire ladder. Stiff extruded T-channel design of long members, permanently anchored corrugated rungs and riveted double-plate bracing are a few of these exclusive test-proved features.

For *tested* safety, *tested* efficiency, *tested* durability, specify original aluminum ladders as original or replacement equipment.

ORIGINAL MANUFACTURERS OF ALUMINUM FIRE LADDERS

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

300 CARBIS STREET • WORTHINGTON, PENNA.

IN CANADA: C. E. HICKEY & SONS, LTD.
HAMILTON, ONTARIO

SINGLE WALL LADDERS • LIGHT-DUTY EXTENSION LADDERS • HEAVY-DUTY 2, 3 AND 4-SECTION EXTENSION LADDERS • ROOF LADDERS • FOLDING LADDERS • PIKE POLES

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OREN

FIRE TRUCKS

OREN FIRE APPARATUS built in all popular capacities and types is available built on your choice of suitable chassis — Commercial or OREN Custom-Built Special Fire in a wide variety of power plants to suit the special requirements of your service.

It will pay you to carefully consider OREN before you place your order for any new Fire Apparatus. . . . Act Now! Act in time to be sure of a reasonably good delivery on The Finest in Modern Fire-Fighting Apparatus.

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ROANOKE 16, VIRGINIA

BACKED BY A 115-YEAR RECORD

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"NEW YORKER"

(Leather)

No other helmet made has ever shown the rugged stand-up-ability of this "pioneer" of all "regulation" helmets — which explains why it is first choice in the largest departments, where the duty is hardest.

No. 350

"SENATOR"

(Aluminum)

Where the preference is for aluminum, here is a rugged one-piece "regulation" helmet that is light, durable, safe and comfortable—and largely used by both regulars and volunteers, the country over.

No. 900

"CLIFTON"

(Plastic)

"Regulation" in every line, this latest CAIRNS helmet is made of "Flint-Flex," a new tough flexible plastic that gives complete protection. Ask us about the new formable head band that may be shaped to the individual head.

CAIRNS

The "LIFE-GUARD LINE" of

FIRE HELMETS

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"SEAMLESS"

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A drop-brim style with seamless crown. Applied ribs have steel reinforcement. A tough, long-wearing leather helmet at lower cost.

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"STREAMLINER"

(Aluminum)

A feather-weight helmet with specially formed crown giving solid support to the front piece. The drop brim gives extra protection for eyes, ears and back of neck.

No. 720

"COMMANDO"

(Plastic)

A utility model of CAIRNS "Flint-Flex" plastic. Safe and durable, with close-fitting front piece and new "snap-in" lining which makes installation or removal a matter of seconds.

All Models Have CAIRNS Cushion Lining

Write for Catalog 331 showing everything a fireman needs for his personal equipment — together with Department Record Books, Secretary's Book, and printed forms.

CAIRNS & BROTHER, INC.

OUTFITTERS TO FIREMEN SINCE 1836

854 Bloomfield Avenue, Allwood, Clifton, N. J.

A NATIONALLY RECOGNIZED FIRE SCHOOL DIRECTOR

"We believe in Scott Air-Pak. We use it and we teach its use. There's nothing like it."

PROMINENT FIRE DEPARTMENT SURGEON

"Scott Air-Pak is the best mask equipment available, because it completely protects the firemen's lungs, without any penalty of slow starting or difficult breathing."

A "CITY FATHER" SAYS

"I'm recommending more Scott Air-Paks, because we're determined to make our firemen safer and reduce our property losses. Our use of even a few Air-Paks has proved what can be accomplished."

Scott Air-Pak (TRADEMARK) invites you to

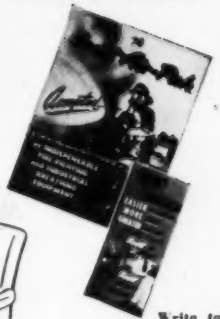
Meet Some People

A FIREMAN WITH 25 YEARS SERVICE

"I'm sold on Scott Air-Pak, (and I've used them all) because Scott has not forgotten the little things that count, like the guard on the Cylinder Valve; the wonderful quick-action Harness, and the easy and positive breathing action. All of our boys have complete confidence in the Air-Pak."

A FIRE CHIEF

"I'm standardizing on Scott Air-Pak, because their use is enabling my men to get in quicker; do more when they get in; and often knock out a fire with little water or structural damage. When we can equip *more* of our men with Scotts, we can do an even better job."



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FOR SAFETY - FOR SERVICE

A MUNICIPAL PURCHASING AGENT

"I have the operating cost record of our Scott Air-Paks. We saved money last year by using Scotts, in spite of the fact that we've used them *much oftener* than our previous breathing equipment. No Cannisters to buy. Air is relatively cheap. When the Chief asks for more Scotts, I'll sure approve."

Write *today* for descriptive literature on Scott *Air-Pak* (illustrated above) and Scott DEMAND Oxygen Inhalator.

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Export: Southern Oxygen Co., 157 Chambers St., New York 7, N. Y.

Headquarters for Fire Department

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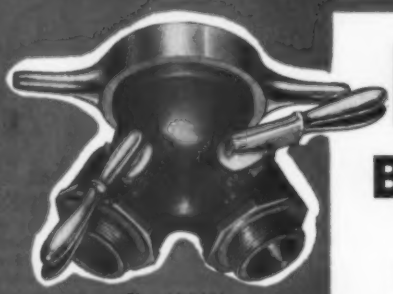


Fig. 164AN
4½" swivel female x two 2½" male Gated Siamese. Quick opening. Two valves.

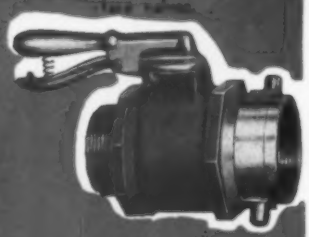


Fig. 163
Made either Right Hand or Left Hand 2½" male x female, gate valve.

McINTIRE BRASS WORKS

Pioneers in Nozzle Manufacture

ORIGINATORS

and Sole Mfgrs. of

INVINCIBLE NOZZLES

We invite figuring or bidding on all types of brass work

Fig. 156
"MORSE" SHUT-OFF NOZZLE AND PLAYPIPE COMBINATION

FIREBOAT TOWER NOZZLE

Operated by Remote Control

with full Transverse Control

Figure 114-B — one of many — made by pioneers in nozzle manufacture.

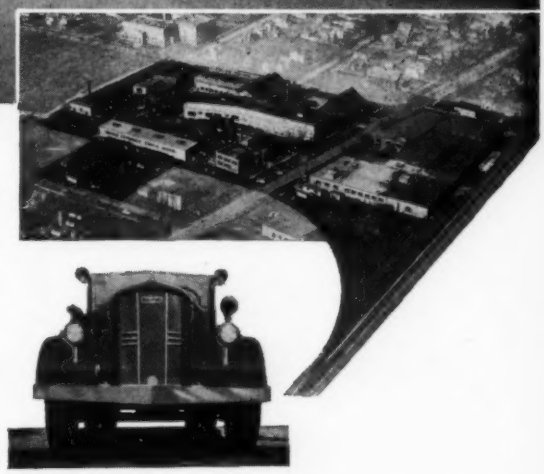
AUTOMATIC-OPERATING SHUTTER AND SLIDING POLE

15 feet high. 6500 G.P.M. 5" tip.

For the FINEST BRASS GOODS *Specify* McINTIRE

F. N. McINTIRE BRASS WORKS 221 HIGH STREET BOSTON, MASS.

from this plant comes America's finest fire-fighting apparatus



WARD LaFRANCE pumpers

Across America — in cities large and small — you'll see Ward LaFrance Pumpers in service. For more than 30 years, their name has been a familiar one on the nation's fire-fighting scene.

Why? Mainly because Ward LaFrance Pumpers have proved their ability to perform under a wide range of conditions. Whether called upon to travel through congested streets or over rough country roads, they have demonstrated conclusively both their speed and their maneuverability.

Every Ward LaFrance pumper offers the reserve horsepower so necessary for quick acceleration or climbing hills — the famous Waterous split housing pump — surplus gallonage that far exceeds its rated capacity — flat horizontal booster tank — exceptional hose capacity and other equally famous features.

Why not consider Ward LaFrance first when selecting apparatus for your community. Write today — giving us full details — or send for illustrated bulletins.

WARD LaFRANCE TRUCK CORPORATION

Fire Apparatus Manufacturers for over 30 Years

GENERAL OFFICE & FACTORY: Grand Central Avenue, Elmira, N.Y. *Tel. 5171*

DIRECT FACTORY BRANCH: 139th Street & Bruckner Blvd., New York 54, N.Y. *Tel. CYpress 2-3300*

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KENWORTH

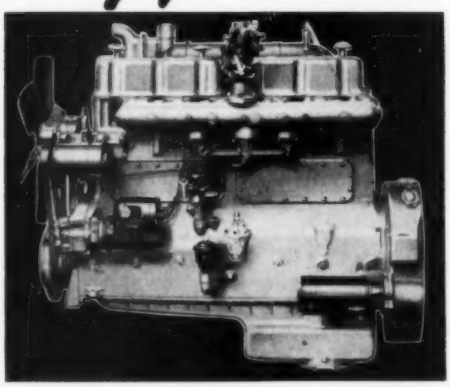
A FAST FIRE FIGHTER TRUCK

packed with pumping power

This truck has an engine that's a sure starter and a quick starter. It has to make a fast get-away, pick up speed and keep right on rolling—safely but swiftly. It goes to fires! And it has to put out power for those pumps when it gets there.

That's why there's a ***high output*** Waukesha 240 hp special power plant in this Kenworth Model 720 Fire Truck with a 750 gal. Class A Centrifugal pump, 500 gal. booster tank, and air brakes all around.

The Waukesha 145-GKB is a fire truck engine—from its twin ignition to the 3½-inch 7-bearing counter-balanced and hardened crankshaft. Its torsional vibration dampner, down draft carburetion; crankcase ventilation; overhead valves with Stellite-faced exhaust valves and seats; removable wet sleeve cylinders; arrangements for full electrical equipment, air brake compressor and all modern accessories give it the reliability Kenworth Motor Truck Corporation of Seattle, Washington, demand in all their trucks and buses. Get all the details. Send for Bulletin 1594.



Waukesha 145-GKB High Output FIRE ENGINE SPECIAL
Six cylinders, 5¼-in. bore x 6-in. stroke, 779 cu. in. displacement develops 240 hp. at 2400 rpm.

138

WAUKESHA ENGINES

WAUKESHA MOTOR COMPANY • WAUKESHA, WISCONSIN

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New! DYNAMIC

RATE COMPENSATION FIRE DETECTION

No other like it! For plants, all commercial and public buildings, institutions, ships.

With the unique Fenwal DETECT-A-FIRE Detector you get a temperature-sensitive stainless steel *shell* that is the activating component. Never too early! Never too late! It's Rate-Compensated —an entirely new principle of fire detection. Write now for details. Put *dynamic* fire detection to work for you.

Photos from THE FRENCHMAN © 1948, 1949, by Philippe-Halsman, courtesy Simon and Schuster.

NO SLEEPING ON THE JOB! Fixed-Temperature detectors have an inherent time lag due to time required to absorb heat.

NO FALSE ALARMS! Rate-of-Rise detectors may false alarm under non-fire conditions.

DYNAMIC! New DETECT-A-FIRE Detector is Rate-Compensated to give *dynamic* fire detection. No thermal lag. No false alarms.

ATTRACTIVE Fenwal DETECT-A-FIRE horizontal mount combines smart design with unique operation. Gives sensitive response to temperature at any rate of rise — non-response to fast temperature jumps below pre-determined alarm level.

PLEASE SEND ME THE BASIC FACTS about the new Fenwal DETECT-A-FIRE horizontal unit for ordinary institutional, commercial, industrial, and marine locations.

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Precise, DYNAMIC Fire Detection

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Temperature Control Engineers

VISIT OUR BOOTH 206 AT THE NATIONAL INSTRUMENT EXHIBIT, HOUSTON, TEXAS

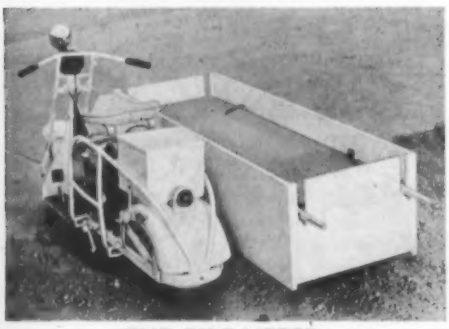
YOU'RE THERE WITH THE....

THE FIRE-SQUELCHER

Cushman FIRE AND AIR RAID UNITS

A CUSHMAN chassis is the latest, most effective and most economical vehicle on which to mount fire protection equipment. We illustrate three applications of CUSHMAN machines for fire fighting and emergency requirements.

THE FLOOD-LIGHTER



THE FIRE-LITTER

THE FIRE-SQUELCHER—A CUSHMAN three-wheeler with 2000 watt floodlighting equipment on the front platform, plus an additional 55 gallon per minute independently powered pump. Extra hose, acetylene tank, CO_2 tank on rear. Light metal framework carries suction hose and 24 foot aluminum or magnesium ladder. A stable, maneuverable machine, capable of 25 miles per hour, approximate load capacity, 600 pounds.

THE FLOOD-LIGHTER—A CUSHMAN three-wheeler with extra large front, with capacity of up to ten cubic feet to carry various types of emergency equipment, including a half dozen flood lights operated by a 2000 watt generator.

THE FIRE-LITTER—A CUSHMAN two-wheeler with litter type side car; small, fast, compact, ideal for emergency application. Litter can be removed for special pickup, or messenger work or deliveries.

The above suggestions cover only a few of the many applications of CUSHMAN vehicles for fire fighting and air raid work. CUSHMANS are used today in many industrial plants, air fields, military posts and camps, as well as suburban areas, small towns and villages. Initial cost is extremely low; maintenance is almost negligible.

DEALERS in fire fighting equipment and all interested buyers are invited to inquire regarding equipment for their special needs.

CUSHMAN-UNIVERSAL CORPORATION

4 East 39th Street, New York 16, N. Y.

NONE BETTER

. . . the noticeably better performance of American Fire Hose is the natural result of skillful, painstaking manufacture. American does not compromise with quality—as a result critical buyers eventually standardize on American.

LAMINATED CONSTRUCTION
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MUNICIPAL FIRE HOSE

OTHER AMERICAN BRANDS

WHITE	TREATED
Crackerjack	Imperial
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Fully guaranteed against mildew and rot; water repellent.

FLEXIBLE . . . balanced weave and premium yarn assure greatest strength and flexibility.

SMOOTH WATERWAY . . . lowest possible friction loss.

DEPENDABLE . . . unsurpassed for ruggedness and long life.

LOWEST COST PER FOOT PER YEAR

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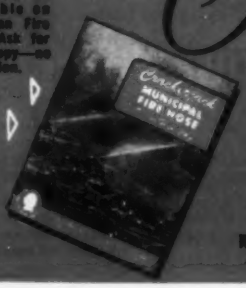
Descriptive literature is available on American Fire Hose. Ask for your copy—no obligation.



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Screams 360° WARNING — ALL DIRECTIONS

● Here's the lamp that emergency vehicles have been waiting for—a specialized high-intensity warning blinker for fire, police, state and county highway vehicles, ambulances, and utility trucks. 360° special Airport lens (red, amber or blue) is visible all around the horizon, in daylight or darkness. Kit includes complete assembly, high-intensity light source, dual conductor cable, flasher mounted in switch with indicator lamp, mounting pad to seal roof. Model No. 360.

Griffin engineered a special light pattern for this lamp—a perpendicular shaft of one-inch width, high intensity, constant focal point increasing with distance.

Details like this make Griffin the new leader in lamps, make every product a masterpiece in fleet safety lighting design.

Find out about this sensational new blinker. Write, wire or phone—

THE GRIFFIN LAMP COMPANY, HAMILTON, OHIO

GRIFFIN
AUTOMOTIVE SAFETY LIGHTING

Clearance-and-Marker
No. 117
Streamlined, shortened, modernistic—ideal for cabs of new model trucks and buses.

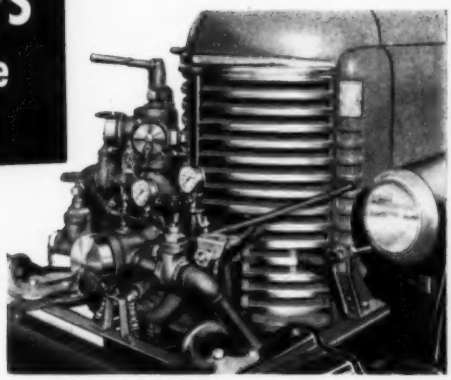
Giant Stop Lamp
No. 200
Powerful big 7½" stopper, red or amber lens, black enamel finish, 6-8 volt bulb, 32 c.p.

Wide Visibility Fender Mirror No. 406
Diminishing lens mirror allows operator to see from shoulder to shoulder on road behind. Off-center ball mounting.

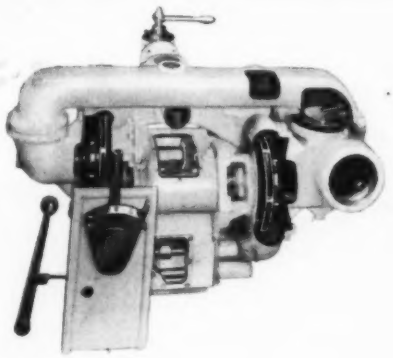
These 3 GREAT FIRE PUMPS

are built to give your community the best fire protection at minimum cost

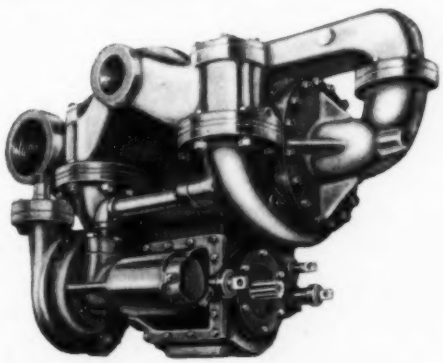
Choosing fire apparatus built around one of these three famous Barton-American pumps will assure you the best in fire protection with maximum effectiveness for every equipment dollar. Proof of superior performance is found in the records of dozens of apparatus manufacturers and thousands of fire departments using these American-Marsh pumps. Back of these performance records are skill in design and workmanship . . . and painstaking quality control . . . developed through many years of specialized experience in fire pump manufacture.



UA — Gear Driven, Front-Mounted Fire Pump. Front-mount leaves entire chassis for big water supply tank and permits close approach to water source. Delivers large capacity hose streams and high pressure fog. Fights grass or brush fires "on the go". Bulletin 8330.



DMA — Duplex Multistage Centrifugal Fire Pump. The only midship pump having two independent pumps housed in a single unit giving three pressure and volume selections: large capacity at normal pressure . . . normal high pressure with high pressure impeller operating . . . and pressures to 400 lbs. with both impellers. Impellers are independently shafted and geared. One-point lubrication. Bulletin 8733.



DMB — Duplex Four-Stage Fire Pump. Provides up to 850 lbs. pressure, with adequate capacity for simultaneous use of two fog guns and 1½" or 2½" lines. You can select any one of six different capacity-pressure characteristics, operating with one, two, three, or four stages. Has same construction features as the DMA plus two additional stages. Bulletin 8734.

All Units Meet Full Underwriters' Requirements for Capacity and Pressure

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BATTLE CREEK MICHIGAN
U.S.A.

Canadian Apparatus Plant:
American-Marsh Pumps (Canada) Ltd.
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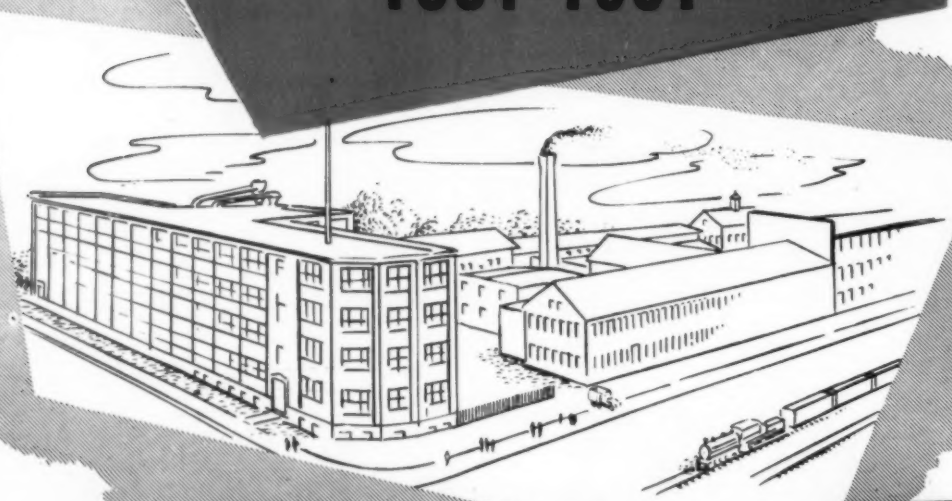
See these pumps with sections cut away to show working mechanism, and hear the complete American-Marsh story at the International Convention at Grand Rapids. Visit our Battle Creek Plant on your way to or from the convention — demonstrations, plant tours, and hospitality!

100 Years
IN THE PUBLIC SERVICE
1851-1951



During 1851, in the City of Boston, Massachusetts, was made the first practical application of the Morse teleg-aph to fire signaling, providing a public and always accessible means for calling the fire department. John N. Gamewell shortly thereafter, acquired patent rights for the system of fire signaling thus applied in Boston and which has since become universally known as The Gamewell Fire Alarm System.

The well estabished reputation for reliability, durability, and efficiency of Gamewell equipment, produced by a small force of highly skilled workmen, has resulted in the widespread use of The Gamewell System not only in the U. S. A. but also in many other countries.

The Gamewell Company, lineal successor to John N. Gamewell, deeply appreciates the widespread confidence in its products and will continue to incorporate therein features dictated by 100 years experience that are essential to the protection of life and property.

The GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., BELLEVILLE, ONTARIO

AUGUST, 1951

FIRE ENGINEERING

VOL. 104, NO. 8

With the Editor

Near Catastrophe in Newark! Shortly after noon on July 7th, the first general alarm fire in the history of Newark, N. J., roared out of control for four hours, punctuated by scores of explosions, in the vast Warren Petroleum Corp. liquid propane storage plant. To thousands who watched with fear and awe, the spectacle was reminiscent of an atomic attack. To Newark firemen and other fire-fighters who responded to the many calls, it was an experience they will never forget, an example of the futility of one of the best of fire departments, well manned, and equipped, to come to grips with the enemy—fire!

To date, no fire force had ever been called on to combat a propane fire on such a vast basis. The prescribed strategy and techniques for controlling fire in propane never envisaged having to wage war on such a wide front, protecting such vast exposures not to speak of safeguarding the lives of the many fire fighters engaged in the operation.

It would seem there is a cogent lesson in this near-disaster (fortunately no lives were lost). As this is written, FBI and local fire and other officials are probing the cause. But whatever the cause, the effect is so strikingly apparent as to cause concern for the future.

The concentration of highly flammable and explosive materials in one area made it impossible for the small army of fire fighters to contend with the furious and spreading conflagration for hours after the initial blast.

The lesson would seem to point to the need for greater discrimination in permitting the location of such tank farms; in installing more effective safeguards against the spread of such fires, however they may originate.

Unquestionably the nation will see increasing use of liquid petroleum gases. The attendant hazards touch every village, town and city and every fire department. Relatively speaking, every community that has L.P.G. storage may be in the position the Newark Fire Department was on that fateful Saturday morning.

Fire prevention and protection engineers, and L.P.G. officials themselves, have been active in setting up fire safety standards that would, if not prevent, at least negate such situations. It would seem that they haven't yet gone far enough.

Hose, the Essential— Recently, in a New Jersey community, a series of hose failures during the early stages of controlling a fire in a frame apartment building necessitated a fire department calling for help from two adjoining communities. The delay caused by the hose failures in the critical "attack" period took the initiative away from local fire fighters and threw them on the defensive. The result was a much heavier loss than it should have been.

This is by no means an isolated case. This, and other reports of like instances reaching FIRE ENGINEERING, prompt the suggestion that if they have not already done so, fire officials should waste no time checking over their indispensable fire fighting facilities—hose in particular!

It would seem with all the warnings cities have had concerning increased needs for fire hose, advancing prices and slowed deliveries for fire equipment, that those officials charged with maintaining proper standards of fire protection would have anticipated future needs, and placed their orders for this essential. Unfortunately however this isn't the case. The results are that many fire departments are struggling along, trying to make outworn hose last for "just one more fire," with consequent jeopardy to the lives of citizens, and to firemen themselves, not to speak of weakening local fire defenses.

On the other hand, many fire departments in "target areas" are increasing their hose reserves, particularly the larger sizes, "just in case." They are no longer satisfied with having sufficient reserve hose to replace the supplies carried on pumpers and other apparatus; they want enough to meet large emergencies without having to depend upon out-of-town sources.

No fire department can afford today to neglect this vital essential to modern fire control and extinguishment. Forethoughtful officers check and double check working hose and reserves; they see that all hose is maintained in good condition and they anticipate future requirements by ordering sufficient hose annually to insure replacement of all stock of doubtful quality. Furthermore they do not attempt to counteract rising prices by substituting below-standard grades for the quality brands that have been the fire fighters' reliance for generations.

Fred Sheppard

Newark Propane Storage Blasts Show Extreme Hazards Involved

Fire Fighters Successfully Protect Exposures, Which if Involved, Could Have Wrecked Industrial Area

A STAFF REPORT

Editor's Note: As this is written, Newark, N. J., firemen are still standing by at the devastating wreck of what was the Warren Maritime Petroleum Corp. storage plant in that city, following the blasts and fire that wrote a new chapter in the documentary information on the hazards inherent in the handling, transportation and storage of liquified petroleum gases.

It will be some time before all the details of this disaster are known—if certain facts, such as the cause, ever are discovered. But because of the imminence of the International Association of Fire Chief's convention, and the attention which this epochal incident will doubtless receive at the conference, we have not waited for the final conclusions resulting from the studies under way but have hurried this interim report for our readers. Although perhaps lacking in some technical details, we believe this is the first authentic account of the emergency to be released to the fire service.

Except for these details, including the cause of the disaster (no less than nine separate investigating agencies are presently seeking the answer to that question) the report is comprehensive. That this is so is largely due to the willing cooperation of the Newark Fire Department, which bore the brunt of the fearsome fight to contain the holocaust.

The editors are especially grateful to Safety Director and Fire Commissioner John B. Keenan; Chief Engineer Charles G. Burnett, and Deputy Chief Harry Sommers of the Newark Fire Department—all of whom were in the front line of the battle, for their assistance. Acknowledgment also is made of the help of certain employees of the Warren Company.

IT is seldom given to the head of a municipal fire department and his aides to be right on deck at the outbreak of a conflagration. But that distinction can be claimed by Chief Engineer Charles G. Burnett, Deputy Fire Chief Harry Sommers and Acting Battalion Chief Peter Sauro, and their drivers who were "on deck" literally and figuratively when the Warren Maritime Petroleum Corp. propane storage farm erupted violently into atom-like activity shortly after 1:00 P.M. on Saturday, July 7th.

By one of those tricks of fate, the three chiefs were aboard the Warren tanker Natalie Warren, moored at the loading dock of the Warren properties. The ship, a 7800-ton carrier that makes the round trip from Houston, Tex., the company headquarters, to Newark every 13 days normally carries a cargo of approximately 1,200,000 gallons of propane. The occasion of the visit was to combine an inspection of the vessel and Warren propane storage farm, with a demonstration of safety features in the installation which the company employes reportedly intended to give to the "visiting firemen." The demonstration, not inspired by the company, all too dramatically came off, if not as planned and but for another of those tricks of fate, would have wiped out the group of fire fighters had it materialized moments later after they had left the ship and were in the midst of the bank of propane storage tanks.

The Chiefs, guests of Mr. Vincent E. Dunbar, superintendent of the Warren plant, were aboard the ship when the first muffled explosion came. According to Chief Sommers, it sounded like the concussion that comes with the ignition of heavy flammable vapors in the open. But to those who live daily with propane and other liquid petroleum gases, it spelled but one thing—"get out, but fast!"

As the Chiefs headed for their cars, they saw fire, apparently burning vapors, below some of the cylindrical tanks in the eastern end of the westerly group, farthest from the pier. Nobody paused to investigate, for about that time came the second and heavier explosion. To Chief Burnett, "it seemed like the whole field was starting to go. They shook up the car and we could feel the intense heat waves. We barely got away," he said.

Air view of area involved in Newark propane disaster

At extreme left the plant of the International Printing Ink Corp. is well involved by fire. In the center of the photograph, just beneath the smoke column, are scattered tanks which were originally in the 70-tank unit. At lower right is the 30-tank group which was saved. Escaping gas from a couple of these tanks is burning. Fire streams at right are wetting down railroad cars containing propane.

Flying propane tank "buzz bombs" water main

This 70-foot tank flew nearly 300 feet from its cradle and nose dived deep into soft earth to cut a highly essential 12-inch water main which fed the Warren Maritime Petroleum Corp. yard hydrants and those of Atlantic oil storage and Gross candle plant. View is looking north with Passaic Valley Sewer Commission plant in far background. One tank flew from field indicated by wrecked burning containers, clear over commission's plant to wreck a filling station.

Chief Burnett's first action was to instruct Deputy Chief Sommers to immediately transmit a second alarm via his car radio, which the latter did. Thus, within seconds, fire fighters were on the way.

Meanwhile the crew of the tanker, and the small staff of plant employees comprising the Saturday force (reportedly only ten) went into action. Dunbar's first thought was that a plane had crashed into the tank (the installation is only about a mile from Newark Airport). He ran toward the flames in an effort to reach safety controls as the second tank went and was burned by the scorching heat of the blast. He then hurried back to the docks and ordered the men to disconnect the loading hoses and get the ship away from the pier. Dunbar then made a hazardous escape across Newark Bay over a trestle where he was later picked up and sent to Bayonne hospital.

Morgan D. Spangenberg and Hank Garland, other Warren employees, were atop a loading rack alongside the little office (which was reduced to ashes). With "flames all around them" they ran down the stairs from the loading rack for the nearest "safety button" which closes all valves in the tank field, segregating the gas containers to avoid explosion. They also managed to make a perilous escape, to be later hospitalized with burns.

Despite all the plant's safety features, once the fire had possession of the storage area all hope of saving the westernmost bank of tanks was out of the question and fire fighters and plant workers (as rapidly as they could be mobilized) concentrated on preventing extension of the fire to the eastern group of tanks, and the hazardous Atlantic oil storage to the east.

Area Crowded with Hazards

The scene of the disaster was in the highly industrialized "Iron-bound" district of the Port of Newark. The Warren Maritime Petroleum Corp. "storage farm" reportedly occupies 82 acres of New Jersey flatlands lying between busy Doremus Ave. on the west, Newark Bay and the Passaic River on the east, but separated from the water by the huge tank installation of the Atlantic Coast Terminals Corp. Some of its 15 or more tanks reportedly held 350,000 gallons of gasoline.

The Warren holding, all told, measures about 30 feet on Doremus Ave. and reaches approximately 1400 feet east from that thoroughfare. To the south are the plant and storage tanks of the Interchemical Corp. (International Printing Ink), and lying on the north is the property and plant of Gross & Co. (652 Doremus) said to be manufacturers of candles and other combustibles.

The Warren layout contained two groups of propane storage tanks, loading platforms, piping, etc., separated from each other by less than 300 feet. Between the tank installations were several small structures, including the office, pump house, storage shed and dehydrating building. All but the office, which was frame, were constructed of corrugated iron.

Running through the property from Doremus Ave. to the waterfront were railroad tracks, with sidings and spurs which served the loading platforms for each group of tanks. These steel loading catwalks and platforms and connections were typical of the more modern L.P.G. installations, and the entire farm was held up as a model of safety and efficiency.

Other railroad tracks ran parallel to Doremus Ave. to connect with the neighboring oil storage farms, and industrial plants, and with the transfer yard of the Lehigh Valley Railroad, which bore east and west under Doremus Ave., about 1300 feet south of the larger Warren storage. There were numerous freight and tank cars on the main line and spurtracks at the time of the explosions.

Although full particulars concerning the Warren tank installation have not been released, it is understood there were in all 100 of the large cylindrical containers located in two banks, one to the west containing 70 units and that to the east 30 units. The tanks were arranged in two rows about 15 feet apart and clearance of about five feet between tanks. All were mounted on conventional heavy concrete cradles. The trouble originated in the 70-group and the entire lot was destroyed. Five in all of the easterly group were reported damaged, four of them being ignited. These fires were confined and the tanks cooled by fire fighters and no explosions resulted in this group.

The storage tanks measured 70 ft. in length by 10 ft. internal diameter and were constructed of 15/16 in. steel. Each had reported capacity of 30,000 gals. (water measurement) and were said to have maximum capacity of 26,000 gals. of propane to allow for expansion. Although not confirmed, it was reported there was one tank of nitrogen and several containing ethyl chloride in the total storage.

Photo by George Van

Few tanks remained in place after fire

Desolation marks main area of Warren Maritime Petroleum propane tank farm after blasts that wrecked 70 of largest size tanks. Preliminary observation indicates majority of tanks took off in direction they were cradled, i.e., about north and south. It required many hours for residual gas to burn off some wrecked units. Force of blasts is indicated by way 15/16-inch steel containers were torn apart. View is looking west toward Doremus avenue (indicated by poles).

Firemen get set to save International Printing Ink Plant in "Perimeter Fight"

Smoke is from burning fuel tanks of International Printing Ink plant ignited by flying metal. View is from Doremus avenue at edge of bridge over Lehigh Railroad, looking northeast with Atlantic oil storage tank and Gross candle plant in far right rear. Note fire hydrant (between men) and dry hose line. Pipe on bridge is sewer line. Directly over white square in lower left center of picture may be seen tank, standing on end, which cut 12-inch water main on Delancey street. Chiefs Burnett and Sommers escaped via this street, from dock area. Burning tanks of main Warren group shown left of center. Bank of 30 tanks, that was saved, is hidden in smoke.

Photo by George Van

Newark gets preview of an "enemy atomic attack"

Exploding propane tanks in Warren Petroleum farm threatened entire Newark Bay industrial area. Blast and heat waves threw airplane, flying 2500 feet above, out of control. View is looking northeast toward Passaic Valley Sewage Commission plant south of Wilson avenue marked by poles.

Firemen cool down International Printing Ink fuel tank against fire

One of the several fuel tanks of International Printing Ink plant saved after flying propane tanks and fragments peppered the area, igniting several and damaging plant itself. Fire fighters used deluge sets and deck pipes to cool exposures. Note lush Jersey marsh grass that covers area. Green at start of disaster, the heat soon turned it grass brown, igniting it in isolated places and giving firemen additional trouble.

The system was known as the "closed" type. All valves were operated by air pressure and all tanks were equipped with the required gauges, safety vents and other improvements. The entire Warren field as well as the individual banks of storage tanks, were surrounded by high wire fences topped with barbed wire, and regulation "NO SMOKING" and "DANGER" signs were in evidence. An air horn alerting system was installed on the office structure, and a municipal fire alarm box was located within the yard. This was reported knocked out with all other communications system in the area by the blasts but the fire department quickly replaced it with another box, located on the storage shed.

A paved roadway led from Doremus Ave. to the loading dock area where tankers tied up. This road separated the Gross candle plant from the large Atlantic tank farm and was instrumental in aiding the fire fighters to set up the defense that saved the eastern bank of 30 Warren propane tanks and, by so doing, the Atlantic and possibly other installations.

About 600 feet north of the Warren plant is the area of the Passaic Valley Sewer Commission which occupies ground on both sides of Doremus ave. At the westerly end of the Commission's property is a large, two story brick pumping station which miraculously escaped serious damage although one "flying tank" sailed right over the 40 foot wall of the settling basins to land on and completely demolish the new Texaco filling station of Anthony Sobral on the south side of Wilson ave., about 450 feet west of Doremus. Sobral and his helper fled the scene at the first explosion and escaped. It is said the distance this flying tank travelled was almost 1400 feet.

Located on Doremus ave. about opposite the area housing the Gross property, was a tavern and lunch wagon which were burned or blown out as were the light, power and telephone poles and lines along Doremus ave.

About 1500 feet south of the Warren plant, was the Doremus ave. bridge over the Lehigh Valley main line. Numerous freight cars were on these tracks but none was ignited although flying fragments showered down around near them. The I.P.I. plant, between the Warren farm and the railroad did not fare so well. Fragments ruptured and set off its storage tanks, and a huge chunk of steel tore through the plant itself. Fortunately here also nobody was injured, all hands having taken off at the first blast.

North on Doremus ave., beyond Wilson ave. which is about 1200 feet distance from the Warren property, are a succession of large tank farms and plants operated by leading petroleum and refining companies, interspersed with industrial occupancies many of them in the high hazard class. Less than a mile from Warren's is the plant of the Reilly Chemical Corp. which was the scene of one of the city's worst blazes in 1939. The entire area is covered with high grass, peculiar to the Jersey meadows. This was green at the time of the fire, but now, wherever the heat of the explosions touched it, it is brown, and combustible.

Doremus ave. is paralleled for most of its two miles length by two water mains, one 12-inch and the other 20-inch

Firemen wet down exposed tank car

Newark pumper in sizzling yard of Warren Maritime Petroleum Corp. with firemen operating deck pipe on loaded railroad propane tank car in effort to prevent explosion. This car was on end of string of cars located alongside one row of easterly bank of 30 tanks that were saved. Although this and other cars ignited at vents, they were saved. Note wrecked units in main 70-tank storage burning in distance; fallen power line pole and wires. Ruins of dehydrating building are hidden in smoke beyond pumper.

(located on either side of the street). These supply regulation fire department hydrants on Doremus, and hydrants in the storage yards of the numerous tank farms. The 12-inch main furnished the sole water supplies for the Atlantic and the I.P.I. and Gross properties by means of a 6-inch, reduced to 4-in. line, which ran from Doremus ave. down the lane through the Warren property to the waterside. The 12-in. main ran east on Delancey street, toward the Bay.

About 500 feet east of Doremus, on Delancey, this main was broken by a tank which came down out of the sky almost vertically, to bore deeply into the soft earth. This accident came at about the time Deputy Chief Sommers was trying to get a line of hose into operation to cover the exposed flanks of the eastern bank of tanks less than 300 feet from the exploding containers. Forced to abandon the line because of water failure, firemen were compelled to rely upon the boats and pumpers drafting at the dockside and relaying into other department pumpers nearer the scene.

Firemen Fight Along Perimeter

It is possible to draw an analogy between this large scale disaster and the fire storms that laid waste to German and other cities in World War II. In both, the heat waves and explosions compelled fire fighters to operate on the flanks and perimeter of the conflagrations, concentrating on setting up strong defense, and protecting exposures.

In the case of the Warren holocaust, it obviously was the better policy not to attempt to extinguish the fires in the blazing tanks (those that ruptured and burned and did not explode). Any extinguishment of burning gases (granted it could have been done even were the wholesale extinguishing agents available) the result would have been only to increase the hazard as the unburned volatile gases would spread over the area, threatening later explosions as they became ignited.

As quickly as prudence dictated, firemen did get to work on the fires in the I.P.I. plant and in this they were successful, as no propane was involved.

The high point of the struggle was the effort to prevent involvement of the easterly bank of 30 tanks at the Warren plant. Four of these did ignite but the persistent and courageous work of fire fighters, who risked injury to get heavy streams on them, cooled them to safety.

In order to effectively reach these tanks, a string of railroad tank cars on the siding alongside the eastern loading platform had to be cut. Firemen then manned deck pipes, multiversal pipes and hand lines fed by the Newark and New York fireboats and pumpers. Streams were also directed upon the tank cars at this location, none of which exploded. Not only was the fire one of the most costly ever experienced by the city, it was the most spectacular. Newark citizens, and others who heard the rumble of the explosions, saw the balls of fire shooting skyward to becloud the sun, in the ominous shape familiarized by the atom bomb, thought the worst. Inhabitants of the area accepted the possibility of enemy attack without panic, but by their own testimony many who believed an atomic bomb had fallen did just what they should not have done —rushed out into the streets. According to civil defense authorities and the press, the reaction indicated that more educational work must be done by civil defense officials.

In some cases fire units had to stop to move hot, jagged steel off the road before they could reach the fire ground. In others, they had to fight the crowds of curious, brought out by the continued broadcasting of the disaster, the tell-tale signs in the sky, and the response of apparatus.

Another threat posed by the blasts was the possible rupture and ignition of the Sun Oil gasoline line which runs from Philadelphia to Newark and passes directly below the Warren property. Further away, but not beyond range also, is the new transcontinental gas line.

Newark fire units, responding on the fast spaced four alarms, displayed great courage and fortitude in meeting a situation for which no one had ever been trained, and in fact for which there was no precedent. Although over half the city's effective fire strength and two-thirds of its available personnel responded, the city was never without adequate protection and no outside aid was needed, with the exception of the New York City fireboats, one of which, the Fire Fighter was not operated although it stood fast for some time.

Newark's two little fire boats, officially Engines 31B and 32B, proved their worth although only of 2000 G.P.M. capacity. They pumped for over 80 continuous hours.

To overcome the handicap of the loss of the 12-inch main, the department placed a 1000 G.P.M. pumper on the

Photo by George Van

Flying propane tank ripped International Printing Ink plant over 300 feet away

Pigment storage warehouse of International Printing Ink Corp. plant on Delancey street, about one block south of Warren Maritime Petroleum propane yard, damaged by flying tank. Fuel tanks of the printing ink plant were ignited by other fragments. No one was killed, due to fact small Saturday skeleton force fled after first explosion.

Atlantic Company's dock, closed off the main control valve in the line to prevent back flow to the break, and attached hose lines to hydrants so as to pressureize the foam system and permit it to be operated in the Atlantic property should the emergency arise.

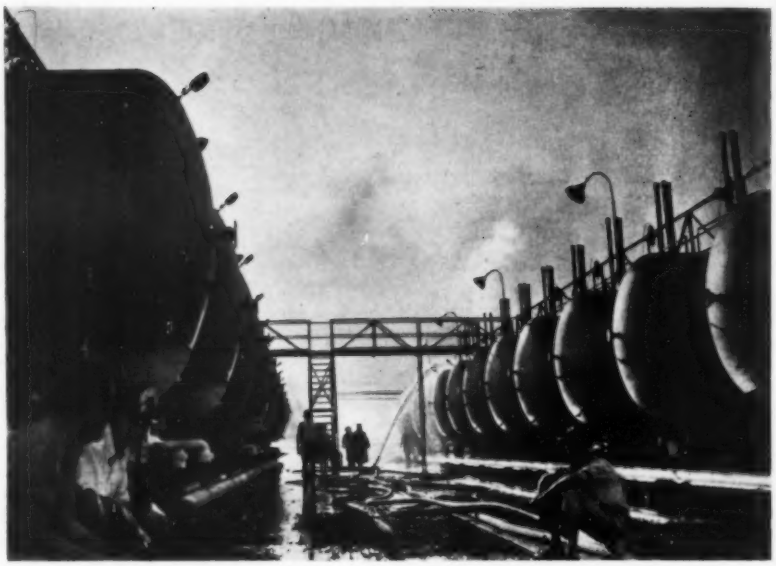
With reports of flying "fire bombs" landing on all sorts of installations and the air filled with rumors as well as flying fragments, and whole tanks and facing the vast area that had to be defended, officers were called upon to meet complex problems in deploying apparatus and manpower. The situation was further complicated by the fact that the police reportedly ordered workers out of the other oil installations and hazardous occupancies along Doremus ave. In one case, that of the Sun company, one of the largest in the area, tankers were left at loading platforms, and it is reported there were few, if any, employees available to man hose or foam lines or furnish other protection had the installations become involved. In the case of the Sun plant, a piece of hot steel, about 4 ft. by 6 ft. came flying down to strike a small insulated type oil tank, where it tore out its side and broke off a large feed line. Fortunately the tank was only partly filled, and the break in the feed line of the adjoining tank was outside the valve. No fire resulted, but later, firemen arrived to help cover the exposure. It is estimated this piece of 15/16 in. metal soared over one-half mile, and in landing, it missed many large tanks filled with high octane gasoline, and alcohol.

Upon receiving news of the emergency, Safety Director John Keenan rushed from his Belmar shore home, to join in the fight. Both Chief Engineer Burnett and Deputy Chief Sommers and their fellow officers are no strangers to the hazards of the Ironbound area. Both are loud in praise of their fire fighters. Both are directing efforts to ascertain the cause of the trouble, and both are resolved to do everything possible to prevent a recurrence.

Speaking of the near-catastrophe, these chiefs point out that although the destructive properties of propane and other L.P.G. products are well recognized, familiarity with such hazards has been limited to such small-scale extinguishing tests as could be made, and such instructional information on the problems of handling fires in such installations as could be secured from written texts. This current episode of wholesale destruction, and potential destruction has opened up entirely new problems of fire control, they emphasize.

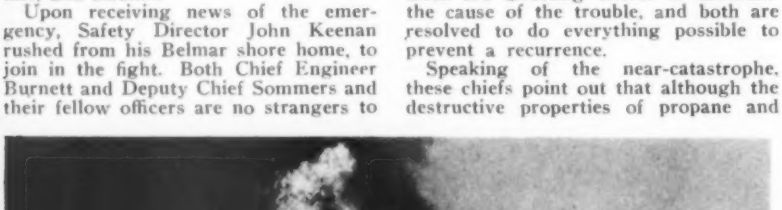
The problem is further complicated by the fact that the Warren installation was supposedly the last word in safety, was well supervised and maintained and by the mysterious circumstances surrounding the origin of the trouble. Officials advance the question if this can happen with such an installation what may happen to the many other, and perhaps less standard installations, that dot the country? The use of propane and other L.P.G. products is on the increase. The products have merit. As their use increases, transportation and storage hazards increase. Shortly, almost every community will have some storages of L.P.G. and must be concerned with this occupational hazard. The question arises what to do!

One thing is certain—Newark fire fighters know a lot more about this sort of occupational hazard than they did before. But they intend to know more, according Commissioner Keenan and the Chief officers of the Newark Fire Department.



Tired firemen snatch rest while others continue fight

Struggle to prevent involvement of second bank of 30 propane tanks in Warren field. Multiversal stream and others not shown, are cooling western flank of installation, a smaller duplication of the 70-tank group that was destroyed. Four-end tanks ignited (note one burning distant right). Picture gives good idea of size and arrangement of tanks with product lines, valves, gauges, vents and platforms. Railroad tracks (not shown) are on far right and left of tank rows. Streams are from fireboats and pumpers in relay.



Why fire fighters had to keep their distance

View of exploding 500,000 cubic foot propane tanks of Warren Petroleum storage yard, photographed from distance of nearly a mile. Looking northeast along Wilson avenue toward walls of Passaic Valley Sewage Commission's settling tanks. Fire in left center is from burning filling station and autos.

Fire Alarm Bureau Has Hectic Period!

The account of this disaster would not be complete without the report of the hard-pressed operators who handled the communications and movement of fire forces. They were Superintendent of Fire Alarm Arthur Moore, and operators James Richardson, Joseph Ryan and Edward Carlin.

(*Continued on page 675*)

Thirty-Five Lives Lost at Fire in Home for Aged

Combination Boarding School and Old People's Home Swept by Fast-Spreading Blaze

By DONAL M. BAIRD
Dominion Board of Insurance Underwriters

ANOTHER name was added to the growing list of institutional fire disasters when 35 women, mostly aged or crippled, perished in a fire which raced through the Hospice St. Cunegonde, an old people's home and boarding school, in downtown Montreal on June 15th.

The spectacular three alarm fire which occurred at midday, quickly cut off escape routes as it mushroomed horizontally through the upper floors from the elevator shaft of the old five story building operated by the Grey Nuns, a Roman Catholic religious organization. On the two top floors were 68 aged, crippled and blind women, helpless to find their way out in the heavy blanket of smoke which filled the building and sealed the fate of the victims before the resources of the fire department of Canada's largest city could be marshalled. Many of those who did escape owed their lives to neighbours, passers-by and the nuns, who plunged into the smoke time after time to return leading and carrying out the inmates. Two of those lost were nuns who re-entered the fire building in fatal rescue attempts. The hour of the fire was probably a factor which saved the lives of most of the remaining 334 in the home.

Although fire-fighting operations were delayed by the fire department's repeated attempts to force entry to the upper dormitories where feeble figures had been seen to fall back into the smoke from windows, the fire was contained for the most part in the three upper floors of the western end of the structure. Early estimates of the damage were set at over $150,000. The toll of life made this the worst disaster in Montreal since the Laurier Palace Theatre fire of 1927, when 77 children were trapped in the blazing theatre.

Thousands of spectators thronged the scene, attracted by the continuous stream of fire apparatus, ambulances and police cars speeding through the noon rush hour crowds. As news of the disaster spread, police and newspaper switchboards were deluged with inquiries, some from as far as Toronto and Detroit. An extra operator was put on the job as police headquarters handled over 2000 calls during the first hour of the fire.

Police ambulances, Red Cross and other organizations arrived almost immediately on the scene to assist in caring for the children and old people made homeless.

The Hospice St. Cunegonde was almost typical of the type of building erected for this purpose before enactment of modern building codes, and was well designed for such a disaster.

Erected in 1895 by the Grey Nuns, the home was of cut stone exterior walls, brick interior bearing walls and joisted floors with a considerable amount of steel used for beams. Construction appears to have been somewhat more substantial than would be expected. Located at the corner of Atwater Avenue and Albert Street in the downtown west end of Montreal, the five story and basement building measures 220 by 75 feet with an ell at the northwest end. The front and main entrance face Albert Street on the long side of the building. At the rear is a narrow yard and a fence separating the property from a three track service line of the Canadian National Railways on the east end; a number of small dwellings and outbuildings adjoined. Along the back of the buildings, at each floor above the street are open balconies with stairs from one to another and with a number of doors opening on them. These were to prove of great value in fire department rescue operations. Inside the home were a main staircase near the centre of the building and another staircase at the western side. Both were open at each floor. At the time of the fire, a contracting firm

Firemen direct streams into the blazing Hospice of St. Cunegonde, home for the aged, blind and orphans in Montreal, June 15.

was engaged in installing an elevator shaft at the rear of the ell and had cut the shaft through each floor, hanging tarpaulins over the area. It is through this shaft that the fire first spread. The interior of the building was chiefly lath and plaster finish but with some alterations in combustible building board. The woodwork was highly finished. The city fire prevention inspectors are said to have recommended installation of automatic sprinklers and enclosure of stairwells following inspections of the home. Montreal's building requirements are not retroactive so as to fully regulate such buildings.

The hospice was operated as a boarding home for children and old people who were paying for their accommodation. On the two top floors in the west end were the dormitories of the women, most aged and in some cases crippled or blind. On the floors below them were the old men's quarters. It was in this west end that the fire was centered. In the east end, where the children were accommodated, the fire was headed off and damage was relatively light. A chapel was located on the third floor and there was a small auditorium on the ground floor east end. On the day of the fire the hospice housed 334 persons; 68 aged women, 40 aged men, 84 young girl pupils, 92 boys, 25 employees, 26 nuns and a resident chaplain.

Shortly after 11 a.m. on the day of the fire, according to testimony brought out at the Fire Commissioner's Court following the tragedy, Joseph Bordeleau, an employee of the firm installing the new elevator shaft, was cutting rivets out of a steel beam on the top floor with an acetylene torch. Sparks from the torch were said to have fallen on the temporary plank flooring over the shaft at this point and the hot rivets were caught in a pail of water by another employee. A third employee on the third floor said that on hearing a cry of fire, he took a pail of water down to the basement by way of the contractor's elevator at the rear of the building. Seeing no fire, he was returning when the house fire alarm sounded.

One of the lower floor dormitories showing the number of beds in each.

The fire was first discovered by 71-year-old Fortunat Taillefer, a pensioner residing in the home, as he came out of the third floor chapel at about 11:45 a.m. and saw smoke coming from the tarpaulin surrounding the elevator shaft. Taillefer called to Father Paul-Marie Seguin, the hospice chaplain, who was in the chapel. Father Seguin said he saw flames come from the tarpaulin and immediately operated the building fire alarm.

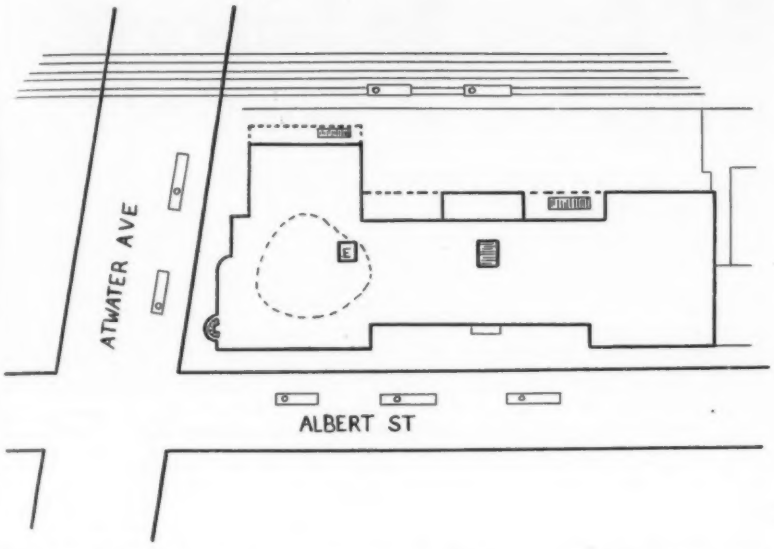
The fire then spread rapidly through the old building, travelling horizontally through the halls toward the main staircase and from the shaft, along all the floors above the third. A heavy volume of smoke quickly filled the west end of the building. Nuns working in an upper floor kitchen were first aware of the fire when they saw flames seep through the floor under their feet.

The first thought of the nuns was of the women on the top floor. Immediately they and the employees began leading and carrying their charges down the stairways to the street. There was no panic and exit was orderly as the smoke thickened. The 176 children, normally on upper floors, were down below eating lunch and, on instruction, joined hands to file out in safety from the east wing as nuns and the more able residents assisted with evacuation of the helpless old people.

A feature of the rescue operations was

An action shot near Atwater Avenue where firemen worked back into the windward side of the balconies.

First bodies being removed with the aid of an aerial while heavy streams were still in operation, on Atwater Avenue side.



Sketch plan of St. Cunegonede's, showing area of intense fire and collapse; elevator shaft under construction; stairways and positions of working aerial ladders at the height of the fire.

the part played by passersby. A 25-year old housewife, Mrs. Paul Gauthier, who resided nearby, is reported to have made her way into the smoke filled building six times to lead twelve persons out. Three telephone company linemen reported having driven by and seen women screaming on the rear balconies of the building, from which smoke was pouring. The three rushed up the balcony fire escape and pulled old people from their beds to struggle down the narrow outside stair with them, bringing to safety about 15 women before the arrival of firemen at this point. Flames were leaping from the windows about them by this time, making further attempts impossible. The Mother Superior of the home, Sister Rita Gervais, and another nun died in a last futile trip into the burning home. It is believed that most of those lost were confused and overcome by smoke, so that they were unable to move or help themselves. The employees lost appeared to have been trapped by the falling roof or cut off by fire.

On the arrival of the first alarm companies under the direction of Captain Thomas Mitchell, who was acting as District Chief, the top floors were heavily involved, particularly on the Albert Street side near the west end at Atwater Ave. Witnesses state that faces appeared at the windows to call out or wave handkerchiefs, only to vanish in the billows of smoke before ladders could be raised. Firemen, aided by policemen from patrol cars and civilians, struggled desperately to reach the top floor where many of the old women were known to be, only to be forced back by the heavy smoke and fire. Captain Mitchell reported being unable to reach the third floor inside the building when he arrived. Aerial ladders as well as ground ladders were placed in operation and a number of persons removed in this way, but rescue operations were abandoned when a roof and floor collapse occurred in the vicinity of the elevator shaft at the west end of the building.

The first alarm was sounded from the street box just outside the building on the corner of Atwater Ave. and Albert St. Acting District Chief Mitchell arrived with the first companies from No. 22 Station on Vinet Street, just three blocks distant, and other nearby stations. Four minutes after the first alarm the second was tapped in from the box on his orders. In addition to the heavy company response, the major staff officers of the department responded. These included Director Raymond Paré, Assistant Directors A. Filion, and F. Gilmore, one Divisional Chief, an Acting Divisional Chief, Chief Instructor, Chief Master Mechanics and two other District Chiefs. As is customary, a number of ambulances from various hospitals responded on this alarm without special call.

On learning of the location of the second alarm fire, Director Paré ordered an additional aerial ladder truck to the scene as he left headquarters. The third alarm was ordered by Assistant Director Gilmore on his arrival at the scene. Two special calls brought three additional aerial trucks and three pumpers to the scene.

Department records show that the fire department rescued about fifty women and ten men from the lower floors of the building before being forced from the fire area.

Ambulances from almost all city hospitals were quickly on the scene to carry away the invalid residents, while others were taken to nearby buildings. The owners of one building turned over two floors for use as a refuge. A Red Cross disaster headquarters was set up on the scene and a registry of missing and dead operated by this organization. Food was provided and emergency overnight accommodation arranged while the fire still burned.

After abandoning rescue operations, the fire department attacked the fire with heavy streams from deluge sets and ladder pipes on three sides of the building, two aerials being set up on the railway tracks at the rear. Meanwhile, hand lines were operated in the east end where the fire was successfully pushed back. The department was little bothered by exposures, saving the end of the building where exposures existed.

Until after 3 P.M., great black billows of smoke towered over the district, finally giving way to the force of multiple heavy streams and permitting access to the west end, at which time the death count began.

The solid interior walls proved a hindrance to the heavy streams operated from the outside and the fire burned

(*Continued on page 706*)

Two aerials working from the rear (north) side on the railroad tracks. Note the balconies and contractor's elevator. Victims were found in the wing at right. This was the windward side of the fire.

What Can Be Done To Improve Rural Fire Attack and Control?

Are We Slighting Important Rural Fire Safeguards in Our Effort to Protect Defense Production?

By ROI B. WOOLLEY

Editor's Note: **During the year 1949, *Fire Engineering* published a number of studies on improving modern fire attack. The author's contention then, as now, was that there is too much thinking of fire *defense* and not enough about fire *attack*; that the fire service —with emphasis on the small town fire department—is not making anywhere near the fullest and most effective use of all the many modern fire control and extinguishment facilities to reduce the time and effort of fire extinguishment, and the amount of damage to property subjective to control and extinguishment operations.**

These modern facilities; respiratory protective equipment; small hose and pre-connected lines; water carriers; water fog and wet water, and portable lighting were discussed in the series. One of the studies published under the title "*Carrying the Water and the Attack to the Fire*" contained much of interest to rural and small community fire forces.

The accompanying study is intended to further review many of these principles of attack by including mention of communications, roads and highways (response) and other details not included in the previous series. No attempt is made to deal with the organizing and administering a rural fire department; emphasis is confined solely to those factors dealing with *attack*, including recommendations bearing upon each phase that may prove helpful.

Appreciation of their assistance is extended the National Board of Fire Underwriters; International Association of Fire Chiefs; National Fire Protection Association; Professor N. G. P. Krausz, University of Illinois; and numerous correspondents of this Journal.

AT the rate we're going, the year 1951 will see between 3,500 and 4,000 farm people killed, and many more thousands injured by fire. In terms of property loss, a conservative estimate would be over $100 million.

In addition to this costly destruction of farm property and human lives, more than 175,000 fires will burn over 25 million acres of irreplaceable forest land, an area as large as the State of Virginia, in many places burning off priceless watersheds, and setting the stage for floods to come.

These losses would be serious under any economic or political conditions but coming as they do at a time when the nation is striving to bolster its war defense production, and stockpile foodstuffs on a grand scale, they are little short of criminal.

The farm fire bill, of almost one-third of a million dollars for every working day of the year, means a tax upon every bushel of grain the farmer hauls to market; upon his dairy and poultry products; upon his livestock. If our figures are correct, it means that one farm in 40 will have a fire, the average loss being $1,500.

Unlike urban areas where fire protection and water supplies are adequate, farm structures often face total destruction when fire strikes. Surveys disclose that the total damage to buildings in cities which caught fire is only about 5 per cent of the value of property involved, while in the rural areas studied, the total damage averages 74 per cent of the value of the property which caught fire.

Measured by the total fire losses of the nation for the year 1950 of nearly $700 million, farm fire losses may not seem so high. Nevertheless when one considers what the losses might be were it not for the improvement shown in rural fire protection and prevention; when we understand that despite this continual improvement in farm fire fighting, the losses in this category have held to a steady $100 million per year, let us say over $1 billion for the last decade, the picture is not so bright. It looks even more dubious when we learn that in number rural fires are showing a persistent increase.

On the credit side, with the growth of rural fire protection districts, and development of rural fire departments, more farm property than ever before is being protected from fire.

Many states now have laws authorizing farm communities to establish and support their own fire departments. Many states contribute in different ways toward the organization and maintenance of such fire protection, provide training, necessary liability compensation, and so on.

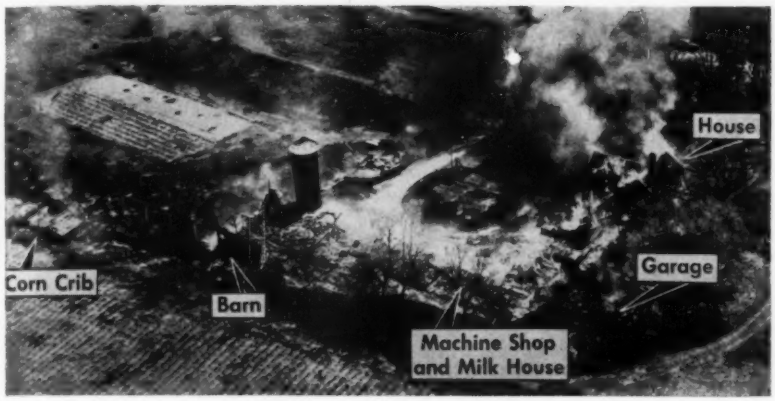
New and better facilities, it is true, are speeding the receipt and relay of alarms and helping to get fire fighters to burning farms quicker, and extinguish such fires faster and with less damage. Where a few years ago practically no rural fire departments had two-way radios, today whole counties are linked in mutual aid networks. Faster, more dependable fire vehicles, portable lift pumps, fog nozzles of different types, large capacity tank trucks, improved respiratory protective and portable lighting equipment are becoming commonplace among volunteer departments. Many rural and small town fire departments maintain their own first aid squads and ambulances. All this is speeding attack.

On the other hand, fire hazards have increased, too. The increased mechanization and electrification of farms have introduced many hazards hitherto little known on farms.

Farmers are using, handling and storing more highly flammable petroleum

Small town firemen were on the defensive in this conflagration

Even the smallest crossroad volunteer fire force may be called on mutual aid to assist in controlling a village or town conflagration such as this in Norfolk, Neb., where an entire block of seven business buildings was involved. Destroyed were a large lumber yard, cab company office, coal office, bar, cafe, sporting goods store and sweets shop.



Rural fires can make a clean sweep if not checked

The value of adequate rural fire protection is evidenced by this graphic illustration of the clean sweep made by fire on the farm property of Mrs. A. H. Smith, near Anoka, Minn., recently. Fire destroyed a corn crib, a barn, machine shop, milk house and two-car garage and was finishing up the house, as shown, when Mrs. Smith returned.

products on their farms. Improperly stored gasoline, and defective or dirty oil heaters, and carelessness with bottled gas are some of the hazards that have resulted.

In some sections artificial drying of hay and other products is coming into broader use. Much of this equipment is home-made and has been a prolific source of fires. Strangely enough, although the farmer has been outstanding as a user of lightning rods, damage from this source appears to be increasing on farms, particularly damage to electrical equipment not properly grounded.

Rural districts are not classed as "target areas" in present-day civil defense planning, as compared with the nation's industrial and business centers. Yet the destruction of wheat fields, or of grain elevators, may rob the nation of vitally essential foodstuffs for the fighting forces, and for our European allies.

It is the considered opinion of far-thinking fire protection and prevention engineers that critical rural areas should receive comparable consideration to critical urban areas, in fire defense planning and execution. Right now, unfortunately, all the emphasis apparently is on fire defense measures for urban, or government "target areas."

It is the primary purpose of this study to focus attention of those charged with the nation's fire defenses upon this very important problem of rural and small town fire control; to briefly recount its more important weaknesses and to offer recommendations for improvements, with emphasis on the attack phases.

Good Communications Essential to Farm Fire Fighting

Because rural property to be protected against fire is usually more remote from the place where firemen and apparatus are located than is the case in urban areas, and because the firemen themselves, are more scattered over the area, thus increasing the problem of alerting and mustering them, the problem of communications is a serious one in rural fire protection.

Lack of speedy and effective communications is presently one of the most serious handicaps to effective fire attack in fire protection districts studied in a number of states. Practically sole reliance for notifying the nearest fire forces of a fire or emergency at present rests upon the telephone. Although admitting its advantages, its limitations, particularly where farmers are on party lines, and its susceptibility to storm, sleet and other weather conditions, constitute one the most serious difficulties to improving rural fire attack.

In some states, when farmers having no telephones were asked how firemen learned of fires on their farms, their only answer was that neighbors are often fairly close and calls can be made from there. This, of course is taking a serious gamble.

Another drawback is the fact that most rural telephone systems have operators rather than dial systems and it frequently happens that fire districts are in several different telephone exchanges, with resultant time lost in getting fire calls through. Delay is experienced, also, at the receiving end of the line, where in rural areas it is difficult to maintain a 24-hour watch service for receiving and transmitting fire calls.

The problem of alerting the volunteer members of rural volunteer fire companies apparently is easier of solution than that of speeding the transmission of fire calls to the fire companies. A few departments endeavor to use the system of notification whereby a call put through on a certain number automatically sets off the fire house siren or other signal. The drawbacks of this system are obvious.

Many areas successfully center fire alarm receipt in the sheriff's office, or police headquarters, which procedure has its advantages where a number of districts may be involved, and where, perhaps, two-way radio headquarters may be maintained for the mutual aid communications within the area. However it is not as preferable as having the communications system centered in the first service.

Where the rural community is small, the solution depends upon local conditions. Of course the ideal procedure is to have someone on duty at all hours, receive calls, and transmit them via a coded signal, powerful enough to reach a sufficient number of fire fighters to respond directly to the scene of the difficulty (using the coded farm designations) while certain members report to the fire station and take out the apparatus. The policy of delaying response until a full crew is at the fire station is inadvisable. It is far better where coded signals are impossible for the first man who reaches the station to take the alarm and drive out the apparatus after leaving on a blackboard, or other indicator, the location so that members arriving later may know where to respond.

Recommendation: More education is needed in instructing the rural telephone users on the procedures for turning in a fire call and, where there are party lines, of the importance of a phone users yielding priority to those having emergency calls.

Improvement in speeding communications where the telephone is the sole reliance must come through educating both the operators and the users of the

Volunteers pressing the attack in a rural fire

Handicapped by lack of water, fire got a good start in this frame home. While some volunteers removed all furniture and furnishings from downstairs, others fought the fire above. Additional line being brought up (believed from a relay set-up) came late, but was reported a help in saving lower part of house and wing.

party lines. Fire officers should enlist the cooperation of their telephone companies, in this regard. Telephone authorities are always willing to cooperate but cannot always take the initiative. Excellent results have been accomplished by having a proper survey of the entire rural fire communication's set-up made by competent authorities, including representatives of the telephone company; fire alarm and radio manufacturers; local authorities who can contribute ideas, such as railroad and other transportation personnel; county sheriff or police, etc. Such survey should disclose a practical and workable solution to the communications problem.

The importance of equipping rural fire apparatus with two-way radio cannot be overemphasized. The greater the area covered by a company, the greater the need of radio communications. The ideal set-up is where all departments of an area are linked on their own radio network, with a centralized control and dispatching headquarters. But even where necessary to share the radio frequencies with sheriff, conservation or police or other agency, radio communications pay for themselves by speeding response, and attack.

Roads and Highways

Given the best communications, and all other essentials to good fire fighting, nevertheless if personnel and equipment cannot reach the scene of a fire or other emergency, all the other assets are useless and attack fails. In short, one of the most important fundamentals of successful rural fire attack is the ability to bring the fire fighting forces to the scene in the least possible time consistent with safety. This depends naturally upon several factors, but without the adequate *avenue* of approach, the roads, highways and lanes leading to the property involved, and sources of water requisite to fighting the fire, attack bogs down, literally and figuratively.

Although highway conditions throughout the country generally have shown improvement, particularly in primary roads, there still remain too many secondary and tertiary thoroughfares that are a handicap to prompt response. Further, there is too high a proportion of access roads and farm lanes unsuitable for heavy fire apparatus, particularly in unseasonable weather.

Even more regrettable, in the eyes of some, is the failure to construct suitable access approaches to natural water supplies, such as streams, ponds and dams where such supplies are well within effective fire fighting distance of farm property.

Recent studies in Illinois, Vermont and other states, cast some light on this point. In May of this year, Prof. N. G. P. Krausz of the University of Illinois pointed out that Illinois rural fire fighting was severely hampered by poor roads. The roads and farm lanes in many of the state's rural fire districts, he said, are mostly inadequate for fire trucks and he recommended improvement of roads and farm lanes.

As we have said, it is often necessary to carry the water and the attack to the rural fire. Water weights 8⅓ lbs. per gallon and the weight of the minimum requirements for booster tanks on rural apparatus, 300 gallons, plus the weight of the vehicle, fire fighting equipment and personnel, frequently is greater than can safely negotiate rural roads and lanes. Apparatus which breaks down, or is mired en route to a rural fire, may be worse than none. It poses an unnecessary burden of cost on citizens, and it is an accident hazard for fire fighters, without producing any return.

Recommendations: Surveys should be made not only of the static water supplies on or available to every farm, but of the access to these supplies—the road of the access to these supplies—the roadways and lanes and their year-round availability.

As indicated elsewhere, farms and other rural property to have fire protection should be identified by number or other code and indicated on suitable maps and/or cards for rural fire stations and for carrying in vehicles. The most direct available routes to respective properties to be protected should be plotted on cards and maps and made available to all fire fighting forces.

Where a district, section or township is a part of a mutual aid arrangement, roads, highways and approach lanes of the several district or areas should be exchanged by each.

It is not sufficient to rely upon the fireman's familiarity with a fire district. This information (brought up-to-date) should be known to all concerned.

Action to secure better thoroughfares should be undertaken with the proper governmental authorities, using the cooperation of all fire service and rural groups and organizations. There are also numerous ways to interest farm property owners and tenants in improving roadway conditions on their own property and those lacking in this essential should be "sold" on the importance of having and maintaining their roads and lanes for fire protection.

No fire protection—no chance to save this woman's home

Mrs. Ida Walters, 78, flees her burning house with empty suitcase, a lamp and portable radio—all she was able to save as fire consumed the structure ten miles west of Kalamazoo, Mich.

Can Response Be Speeded?

We have pointed out what good roads and thoroughfares, and adequate communications mean to rural fire attack, by furthering the response of firemen and equipment. There are a few other details connected with response, which should be considered.

Although mention has been made in the foregoing of the importance of properly identifying farm property to be protected, and identifying the areas with the approach routes, and making this information available to firemen, many rural areas have not adopted this practice.

The most common method of identifying occupancies to further response and speed attack in this detail is the use of a suitable wall maps maintained at fire headquarters and in the telephone exchange or other location of the receipt of alarms and transmitting of signals, together with smaller map reproductions and/or cards giving the locations of all occupancies to be protected and preferably their relation to roads, improved, unimproved and lanes, with the most favorable response route indicated for the driver or other user of the card.

Sometimes the district is divided into sections and each section assigned a block of numbers to further facilitate locating the fire. Every farm home

should have its identifying number conspicuously displayed, preferably on or near the telephone. Many have such numbers posted on or near the R.F.D. box, or upon a telephone pole before the property. Usually telephone companies permit the use of their poles for this purpose.

Reports of all road repairs, detours and improvements in the area should be posted for the attention of all drivers and members of companies.

Water—Vital Essential

Where attack can be speeded through improved communications, better roads and rolling stock, less water will be required to control the average farm fire. Delay in transmitting the alarm, and delay in response are costly in all fire control operations. They can be even more responsible for loss in fighting the rural fire, however, than in the city, where there are usually unlimited supplies of water.

Once the fire has progressed beyond the point where the fire forces can control it with the water carried on the apparatus, and or immediately available for the firemen's use, fire fighters are compelled to fight on the defensive, operations being restricted to protecting exposures, and saving such valuables from the fire as possible. This is the regrettable factor in rural fire control.

Water supply, both that carried to the fire, and that on or available from nearby areas, is a prime essential to successful rural fire fighting. Surveys indicate it is probably the most generally overlooked factor in fire protection programs.

In Illinois and some other states fire districts depend upon more than one source of water supply in rural areas. The principal sources are: (1) cisterns; (2) shallow wells; (3) ditches and streams; (4) deep wells (5) and ponds.

Studies indicate that farmers generally have been loath to develop and maintain sources that will provide water for effective fire fighting; further, that in many cases where water from springs, ponds, streams or ditches was within effective range for good fire fighting, farmers have failed to make it readily available to fire forces through lack of access for pumpers, or even portable pumps.

The question of water carrying apparatus is discussed elsewhere in this study. Mention should be made here of the various expedients adopted by rural fire fighters to provide water for fire extinguishment. Many districts contract with milk plants and cooperatives in the area to use their water supply vehicles. In other sections, oil and other tankers are available for use. Use has been made of old boilers, tanks of all kinds and even locomotive tenders, to build farm water supplies. Several farmers have secured old carbide tanks, mounted them on welded frames that ride on old automobile axles (procurable at almost any car junk yard) which can be towed by a tractor or car and used to supply smaller containers, or a pumper booster. Other farmers utilize tree spraying equipment; others metal or wood barrels to catch drain water from eaves, locating them at corners of barns, sheds and other structures. Some keep pails nested in these barrels, ready for instant use. In winter, anti-freeze chemicals are added to the water.

How Much Water Used Per Fire?

Although there are no accurate data to enable the farm fire fighter and the farmer to estimate the amount of water that should be available on the average farm for fire protection, some states have attempted to estimate the amount by checking the number and types of fires against total gallonage used in extinguishing operations (where such data could be secured). In Illinois, for example, it was reported that the gallonage of water used per fire varied because of the difference in types of equipment. High-pressure pumps with fog spray used the lowest amount—100, 200 or 300

The progressive pictorial story of farm destruction by fire

The pictures alone tell the tale of the complete destruction of this seven-room frame Dwight Carmichael home near Des Moines, Ia. (1) 10:00 A.M.—smoke pours from rear roof; (2) 10:20 A.M.—well pumped dry, firemen forced to stand by as flames involve entire rear of house; (3) 10:40 A.M.—only chimney and wall section remain after forty minutes; (4) 11:15 A.M.—blackened chimney stands as monument to fire, amid hot ashes.

gallons. These units usually carry 400 gallons or more, and this amount seemed adequate, according to the report of Prof. Krausz to put out the fire.

In that state, 30 per cent of the districts reporting, said they used 200 gallons of water or less per fire; 30 per cent, an average of 400 gallons; 26 per cent, between 700 and 1,000 gallons; and 6 per cent, between 1,500 and 2,000 gallons. These figures, according to Prof. Krausz, would lend some support to the idea of constructing cisterns on the farm with a capacity of 2,000 to 3,000 gallons.

The "Machinery" for Attack

Previously in this report we listed the essentials requisite to modern fire attack as: respiratory protective equipment; small hose boosters and pre-connected lines; water carriers (including booster tanks) water fog and wet water, and portable lighting.

This equipment of course cannot take the place of, and must be used in conjunction with, the automotive fire apparatus which constitutes the basis of all fire attack. It is unnecessary to recount the advantages of the before mentioned equipment in modern fire attack, to enable firemen to brave smoke and heat to reach the seat of a fire, to control and extinguish the fire with minimum extinguishing agents and with least damage to property. The wisdom of the coordinated use of these fundamental tools of the fire fighter's trade are being accepted on a broad scale by the continual increase in their adoption and use not only by urban but by rural fire fighters everywhere.

With major farm fire fighting apparatus however, it is a different story. Not that rural fire fighters do not recognize the need of dependable, efficient fire apparatus but because financial or other limitations have prevented many fire companies from acquiring what might be called standard apparatus. Surveys indicate the result is much of the rolling stock employed by rural fire fighters is sub-standard, outmoded and ill-fitted to perform the task for which it is intended. Some of it actually constitutes a hazard to fire fighters themselves as well as a liability to the public which pays its cost.

Photo courtesy E. O. Williams

High pressure helped control this Iowa elevator fire

Elevator fires at best are serious problems for rural fire fighters. This one at New Liberty, Iowa, was no exception. It was taxing the efforts of the fire figting equipment at hand, when the high pressure pumper was called from nearby Dixon. The Dixon pumper reportedly clinched the extinguishing operation, using only 400 gallons of water.

With all credit to "home made" fire apparatus, it must be admitted that in most cases it is an expediency, and has been put together with little thought of its proper importance in modern fire attack, and of meeting the performance standards which are established for today's major fire apparatus.

This does not mean that rural fire fighters are not getting the utmost out of such equipment, or that it is not successfully extinguishing fires. Nor does it mean that its users are not fully aware of the limitations of such equipment and that they are not striving in every way to replace their units with the "ultimate." Deliveries of latest model pumping and other apparatus to rural areas and small towns indicate many such departments are meeting with success in this effort.

Studies show, however, that although many of these district fire departments have secured new equipment, little thought has been given to replacement programs. The life of rural apparatus, of even standard makes, generally is much shorter than that of municipal apparatus. Even though the truck may travel fewer miles per year in rural areas (some actually chalk up more mileage than city trucks) the motor operates under different conditions than the ordinary truck motor and its life is short. Unsuitable storage, inactivity, infrequent use, and indifferent maintenance and upkeep, tend to depreciate rural apparatus as contrasted with the urban rolling stock maintained in properly heated and tended stations.

Pumping equipment has a long life but becomes obsolete with new developments. Programs for retirement and replacement of all outmoded apparatus are as essential to good rural fire fighting as any other kind.

Although most of the pumpers in use are classed as low pressure type, since its advent there has been a continual increase in the adoption of the high pressure fog type and, more recently in the multi-stage centrifugal design that provides high pressure.

Although rural fire departments generally place dependence for their attack on small hose, either ¾-in., 1 in. or not over 1½-in., and booster tank, they do not overlook the possibility that for large scale fires, where range, penetration and volume of straight streams, or large capacity fog heads may be needed,

(*Continued on page* 708)

School is out—and so are the taxpayers of this area!

The bell tower of this frame school at Clive, Ia., topples as fire consumes combustible structure before helpless farmers and others. Building was a total loss because of lack of adequate fire protection; about 125 pupils had to seek other quarters.

Extra-Curricular Demands on the Fire Service are Increasing

"Call the Fire Department!" Appears to be the Universal Procedure in Handling Every Kind of Emergency

By ROI B. WOOLLEY

Editor's Note: **The files of *Fire Engineering* contain countless examples of the many and varied tasks which the nation's fire fighters are called upon to undertake, and which may be said to lie outside their professional orbit of fire extinguishment and fire prevention.**

Some of these jobs are tragic in nature. Some have their comical side. All spell work and possible hazard for busy blueshirts. And a few write finis to some promising careers.

It has long been a moot question just where the fireman's responsibility to his community and the public begins and ends; in short, just which of the many and varied "side-line" tasks he is asked to perform as a "public servant" should be accepted and undertaken, and which should be refused.

In the past, *Fire Engineering* has questioned representative cross sections of the official fire service on certain aspects of this problem but until now no attempt has been made to correlate these findings.

It is not the purpose of this message to attempt to reach a settlement of this much-debated question, even if such effort could hope to accomplish anything constructive. Rather, the author's objective is to bring together as many of these different viewpoints, on as many different extra-curricular tasks as possible, for their possible reference value by a fire service that is daily apparently becoming more embroiled with such requests—and demands.

SINCE the advent of the professional fire service of this nation, there has always existed and there still exists, widespread misconceptions and misunderstandings concerning the place of the fire department, as a public service, in the local government. Ask John Q. Citizen, what is a fire department and doubtless he'll say, "why that's an organization to put out fires." But let John Q. Citizen be faced with almost any trouble or emergency, short of breach of the law; some dilemma, for example that may be as foreign to fire extinguishment as totalitarian government is foreign to our democratic way of life, and the first yelp for help goes to the fire department.

This misinterpretation of the functions and limitations of the fire department is not peculiar to John Q. Citizen alone; it is found generally throughout local government, and even among members of the fire service itself.

It is this misapplied understanding of the meaning of the term "fire department" and of its objectives and capabilities, that at one time or another has brought headaches not only to those who administer this branch of the local government, but to those whose taxes support it.

Just what it is that impels so many persons to call the fire department when faced with what to them is an emergency, yet is apart from fire extinguishment, is difficult to understand. But the fact remains that they do turn to the fire department upon the slightest excuse, as every present day fire fighter knows and, as a result, firemen are called upon to perform many and varied jobs quite distant and apart from their normal business of fire fighting and fire prevention.

A study of the day-by-day "business" of the average fire department will show that these extra-curricular, or side-line activities sometimes occupy more of the firemen's working time than the business of extinguishing fires. Such a study, also, will indicate that instead of diminishing with the years, these unscheduled and unorthodox demands are on the increase, not only in number, but in variety and novelty. They continue to plague the service, regardless of the trend in fires and fire losses.

A partial idea of the variety and complexity of these extra-curricular requests may be found in the annual statements of municipal fire departments. True, these recount only those services performed, not those side-line jobs which were declined, for whatever reason.

Who Performs Extra-Curricular Work?

The annual statements indicate that, for the most part, special extra-curricular operations are generally handled by members of the rescue, or emergency, squads. Where there are no such units, the tasks are more often handled by the ladder companies, or special details.

This does not mean, however, that all firemen do not get into the act, or may not be called upon to go outside their regular calling for such duties. Any fireman, especially if in uniform, on or off duty, may be signalled out for some special, and often what may seem to him, silly job. On the other hand, as has happened frequently, he may be called upon to go to the assistance of a member of some other branch of the municipal service at considerable risk.

Chicago firemen drag a dangling window washer, John Munoz, to safety, June 7, 1948, after his belt broke while he was washing windows on the sixth floor. The near-tragedy occurred at the Socony-Vacuum Building at 59 East Van Buren Street, in the Loop District.

There have been numerous instances where fire fighters went to the aid of their bluecoated brothers, the police, in apprehending robbers, hold-up men and other criminals. Several members of the fire service have won well-earned decoration and citations in this regard. In none of these cases was any question raised by municipal or other authorities of the propriety or wisdom of the action taken by the fireman.

A reason advanced by a seasoned old fire captain, as to why people pick on the fire department for all sorts and conditions of assistance is that the average municipal fire department has among its personnel men skilled in nearly all the crafts and occupants. Not only this, but the department is equipped with nearly all the mechanical facilities essential to meet almost any kind of emergency, from cutting rings off fingers to cutting off the roof of a steel passenger car.

The modern firemen, of necessity, must be somewhat of a "jack of all trades." Dealing daily, as he does, with emergencies and real or threatened disasters in all forms, he must gain more than a superficial knowledge of what to do in almost any kind of emergency. If he lacks the specific knowledge to meet any special and peculiar problem he doesn't have far to go within his own field to locate someone who does.

Unquestionably, this factor has contributed greatly to the belief in the mind of John Q. Citizen that the quickest and best way out of a dilemma or emergency is to "call the fire department." And that is what makes it so difficult, sometimes, for a chief to have to say "no" to certain of these requests for service.

About 2,000 left-wing "peace lovers" held their rally in New York's Union Square in the rush hour, August 2, 1950, in defiance of a police ban on the meeting. Clashes between police and demonstrators resulted in the arrest of thirteen of the more active participants. Above, firemen on a ladder reach for one of the "peace" marchers who fled cops and clambered up a lamp post.

Firemen work to rescue James E. Campbell (center), an Illinois Central Railroad employe at the road's yards on the south side of Chicago after a trapdoor in a coal car sprung open and buried him for half an hour under fifteen tons of coal. Campbell was spraying live steam on frozen coal to loosen it for handling on a conveyor belt when the accident happened.

Extra-Curricular "Rescue"

Perhaps the majority of extra-curricular operations may be classified under the broad term of "Rescue." It is not always in connection with the matter of saving life that firemen are summoned; it may be to rescue a ring that has falled down a sewer, or a hat that has blown onto a roof, a cow from a well, or to help remove a fat person too obese to negotiate a stairway, or the like.

In this category, a heavy preponderance of the rescues of youngsters and dumb animals. In the first group, of course, come the kids locked in bathrooms, or caught in something like the washing machine, picket fence or drain pipe. New York firemen and police get calls nearly every day to get little Willie or his sister out of such a predicament. They've developed quite a technique for removing hands and arms and legs from subway turnstiles, vending machines and other places where curiosity and precociousness inspired their owners to stick them. Other cities have done likewise.

These are generally considered legitimate services for firemen, and some fire fighters go so far as to claim they are not extra-curricular at all. Certainly there is no record where any person, youngster or grownup, was refused aid of a fire department for such rescue, even though victim's life was not actually at stake.

In the matter of actual life saving, albeit not from fire here also there is no room for question, except where the operation may have made the department or the city liable for injuries or damages, or where to attempt the operation would jeopardize the lives of firemen unnecessarily. Yet even under these conditions, the members of many fire departments have accepted the hazards and either voluntarily, or under orders, risked their lives as operating in line of duty.

Sometimes this results tragically. The readers of this Journal may recollect the case of the hysterical "rooftop preacher" in Baltimore, Md., who caused the death of Deputy Chief Lorenz A. Dolle, 63, of the Baltimore Fire Department by kicking the chief from an aerial ladder which had been raised in an effort to remove the raving "preacher" from a roof. Then there was Fire Captain G. W. Chappelle, of Port Huron, Mich., who went into ice filled water to secure two brothers who had fallen through the ice. The brothers were removed, one dead, but the Captain went under the ice cakes and very nearly perished.

Some of these side-line efforts make

the headlines. The whole world heard and read about the frenzied efforts of volunteer firemen and others to bring ill-fated little Kathy Fiscus to the surface from the well into which she had fallen, out in California. But many of equally noteworthy deeds have gone unsung and unrewarded.

Perhaps the most common of all the extra-curricular rescues which the fire fighter is asked to make of unfortunates, in the animal kingdom, is that of getting cats out of trouble, mainly trees.

Opinion appears to be about evenly divided on this "howling" question. That fire officers universally dislike the task is true. That it offers risk of injury to men is also true. But many departments accept the job for several reasons, the principal one being the good will it builds for the department. Others will undertake it only after all other means, such as the ASPCA, have failed.

The problem is not so difficult in cities where there are branches of the ASPCA as in smaller places where there is no one willing or equipped to do the job. For the most part, these communities are served by volunteer departments and in some instances they are not insured against injury to men or apparatus resulting from this extra-curricular work. Even where insured, the average volunteer fire chief dislikes calling out men from their occupation perhaps in the worst kinds of weather, to get cats out of trees. Yet to refuse the request may bring down upon the vamps the ill-will of an entire neighborhood. And volunteers, be it known, frequently depend upon these same persons for financial and other support.

The attitude of one volunteer chief was expressed this way: "If there's any other agency that can take over this job (rescuing animals) put it up to them. If there isn't or, if for any reason, the task is beyond the ability of that agency, then let firemen take it on, and don't wait for the irate taxpayer or voter to go to some higher-up, or bust out in the papers before you do it!"

Frequently it takes a bit of ingenuity to rescue dumb animals, but usually firemen have what it takes. There is the case of the cow that fell into the well. When local yokels with rope and home gear failed to get Bossie out of her predicament, volunteer firemen were summoned. And they had the answer. They simply put a hose line into the well, poured in the water, and Bossie floated up, and out.

There was no question raised as to whether or not firemen should take on these tasks, and many similar ones. But it has been different with other jobs.

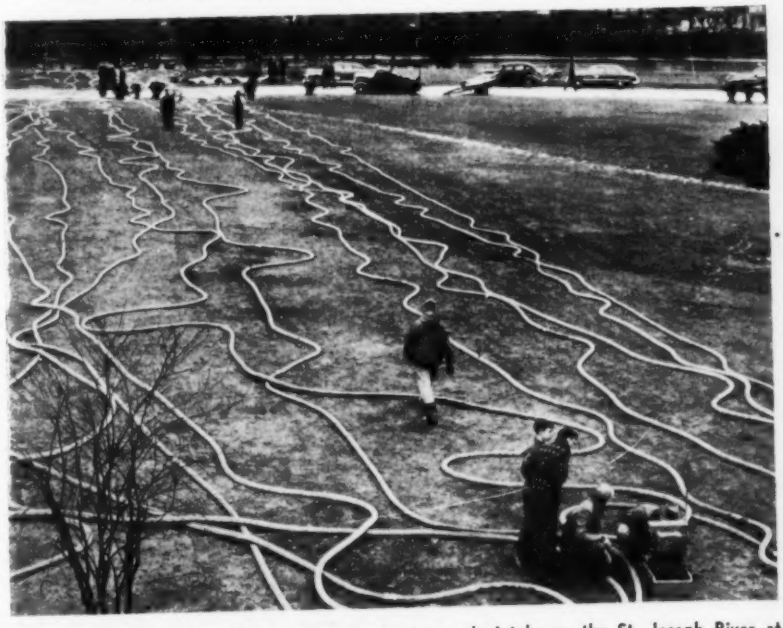
Suicide Prevention Not Relished

One of the most distasteful tasks which firemen are sometimes called upon to do is to prevent suicides, particularly those who want to jump from high places. There is no opportunity to pass the buck in such emergencies; firemen are the only ones ready with the tall ladders, nets and other equipment to meet such emergencies. Here, too, there is danger in this extra-curricular work. Persons obsessed with such suicidal phobias are liable to do anything to anybody. It takes psychology, patience and other qualifications beyond physical bravery, in many cases, to thwart people so obsessed.

There was the case of the Pittsburgh fireman who was called upon to mount an aerial ladder to the top of a 70-ft. bridge structure, to stop a boy from leaping to death in the Allegheny river. The boy, disheartened over a quarrel with his wife, and wanting to end it all, was brought safely down by the fireman. And more recently, firemen, police and others in New York City worked 500 feet above Welfare Island in the East river to make a similar "rescue" of a mentally upset person.

The entire country remembers the ten-hour struggle to dissuade John Warde from plunging to his death off the 17th floor of the Gotham Hotel, New York, on July 26, 1938. Firemen had little to do in that tragic case, recently epitomized by a dramatic moving picture. They did, however play the leading role more recently in Miami, Fla., where for 40 minutes Frank Syno stood on an 8-inch ledge at the 19th floor of the Courthouse building, directly across from fire headquarters, threatening to jump. It was Fire Lt. John Wilkes, aided by Fireman Robert Rainey of the Fire Department Emer-

Unaware or unmindful of the trouble he is causing Philadelphia's Fire Department, this monkey sits calmly on the horse's tail of the Washington monument, and watches firemen scramble all over the statue in an effort to recapture him. The ambitious monk (encircled) set out from the Philadelphia Zoo to seek broader horizons, about 2½ miles from his zoo home.



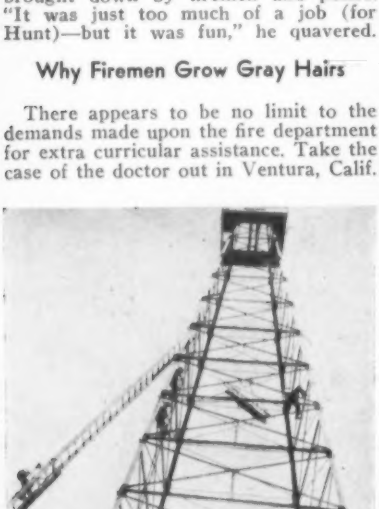
When, on December 6, 1950, an emergency water works intake on the St. Joseph River at Fort Wayne, Ind., became clogged, fire engines were impressed into service to deliver water from the river to the filter plant. Here are shown a dozen 500-foot stretches of 2½-inch hose carrying water from pumpers located at the river bank to the water works filter plant.

gency Squad, who grabbed Syno and yanked him to safety.

On the less serious side, there was Mr. J. T. Hunt of Ashville, N. C., who, at 81 decided he would himself top a tree that gave him too much shade. Despite warnings of spectators and police, the aged Mr. Hunt, armed with saw and safety rope, huffed and puffed his way up the tree, and then had to be brought down by firemen and police. "It was just too much of a job (for Hunt)—but it was fun," he quavered.

Why Firemen Grow Gray Hairs

There appears to be no limit to the demands made upon the fire department for extra curricular assistance. Take the case of the doctor out in Ventura, Calif.



Oklahoma City firemen used a canvas sling to lower Mrs. Virginia Ramona Alexander, Oklahoma City teacher, from atop an 84-foot oil derrick. The young woman, police said, perched atop the derrick and threatened to jump.

who found a skunk in his office. He called the fire department. It would have been easy for headquarters to turn down this appeal, but no, a fireman was sent. It was Fire Marshal Joe Moore in person. Joe found the family of skunks had set up housekeeping under a ventilation well and were downright stinking about it. Fire Marshal Moore donned the throat specialist's smock and poured a can of ether down the well. Soon, he lifted up three sleeping, and powerless, skunks.

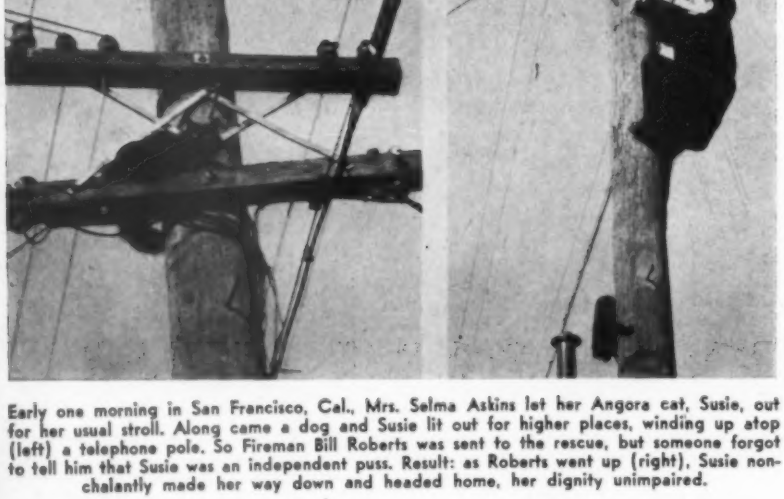
Daniel McShane, Charlotte, N. C., stands on the fourth floor window ledge of the old Post Office Building in Atlanta, Ga., as he threatened to jump to his death, May 8, 1948 (photo at left). Fireman L. W. Guthrie grapples with McShane (right) on the window ledge as Fireman J. C. Lawhon runs up the ladder to help. They held McShane until police came to take him into custody.

In New York City, 23-year-old Frank Avezzano climbed a 175-foot pole in pursuit of a monkey. He looked down. Then he screamed, his arms locked around the pole like a vise. His cries for help brought a three-man fire department crew who went up, tied Avezzano to the pole, then bagged the monkey and lowered it, and finally lowered Avezzano down. A two-hour sideline job that was a thrilling side show for hundreds of spectators. Avezzano? He was all right except for a sore throat —from yelling.

A similar plight brought out San Francisco firemen recently where Elliott Poor said "I guess I got a little high on beer." He did—125 feet high, where a startled passerby heard cries of "Taxi!" at 1:00 A.M. seemingly coming from heaven. Firemen, called by the police, found Poor atop a smokestack of the Southern Pacific General Hospital. Fireman Edward O'Donnell and Patrolman Richard Hubert climbed to Poor and there, finger by finger pulled poor Poor, frozen by fright, from his eery perch.

"All in the day's work" said firemen, but many persons, as well as fellow firemen, wonder about taking these risks. Just how far does "public service" go, they ask.

Firemen don't mind so much getting up in the early hours for jobs like cutting the toilet seat off a Los Angeles, Calif., youngster, who played king and crowned himself with the throne; they gladly go to work on youngsters who cause more mischief than 3-alarm blazers and they will even take out their aerial ladder and shin up 50 feet to get his draft papers signed by a "Shipwreck" pole sitter, and they'll uncomplainingly balance at the tip of a 100 foot aerial to cut loose some silly banner that prank youngsters have substituted for the stars and strips. But there are some things at which they hesitate.



Early one morning in San Francisco, Cal., Mrs. Selma Askins let her Angora cat, Susie, out for her usual stroll. Along came a dog and Susie lit out for higher places, winding up atop (left) a telephone pole. So Fireman Bill Roberts was sent to the rescue, but someone forgot to tell him that Susie was an independent puss. Result: as Roberts went up (right), Susie nonchalantly made her way down and headed home, her dignity unimpaired.

Police Work Not Welcome Side Line

One of these is being used as policemen. They will come to the aid of brother bluecoats, as we've said, in holdups, and other crimes, but firemen vote against such things as strike duty (wetting down strikers and mobs); participating in manhunts, and breaking up political rallies. If the fire department has fire police, these tasks can be shoved off onto them but, if not, fire fighters may find themselves called upon to perform these jobs, unpleasant as they may be.

Even where there are fire police the latter may have a good excuse for not engaging in police work, outside their own community. The story was never told, but firemen and fire police were

(Continued on page 676)

Chicago Tests Communications In Civil Defense Exercise

By PAUL C. DITZEL

CHICAGO again was "atom-bombed" Wednesday April 18 in a civil defense exercise designed to try out communications facilities.

Walkie-talkies, mobile radios operated by Chicago radio amateurs, a helicopter-equipped walkie-talkie, plus ground telephone communications were put into operation after an alert was received for a bomb subsequently "exploded" at 79th and South State streets on Chicago's far southside.

Chicago's plans for civil defense and one of its regularly scheduled exercises were described in the January and April issues of *Fire Engineering*. The latest test, involving the most men and equipment of any test so far, was designed to study and improve upon existing communications facilities.

The test undoubtedly further showed the need for a fire department radio system operating separately from the Chicago police radio system. Lack of funds has been the excuse given for the absence of a radio in Chicago's fire alarm communications system. Several fire department officers and the three fireboats are equipped with two-way radios which operate through the police department system.

Fire Commissioner Michael J. Corrigan ordered the April 18 test for fire department equipment and personnel, which was limited to three of Chicago's previously designated 13 dispersal stations.

The fire stations used in the 79th and State street test were Engine 129 at 8120 South Ashland avenue, Engine 120 at 11035 Homewood avenue, and Engine 126 at 7317 Kingston avenue. These stations were named in Special Order XXX of the Chicago Civil Defense Corps.

At 9:25 a.m., April 18, five minutes before the actual alert was transmitted, an attention department (Signal 3-3-4-1: Attention department, use telephone) was sent out on the telegraph sounder circuit. The alarm office notified all companies of the alert to be transmitted five minutes later.

At 9:30 a.m., Signal 9-9-9-9 was transmitted over the joker circuit and recorded on the registers in all fire stations. The signal was transmitted by striking nine blows four times with a long dash between each nine on the register.

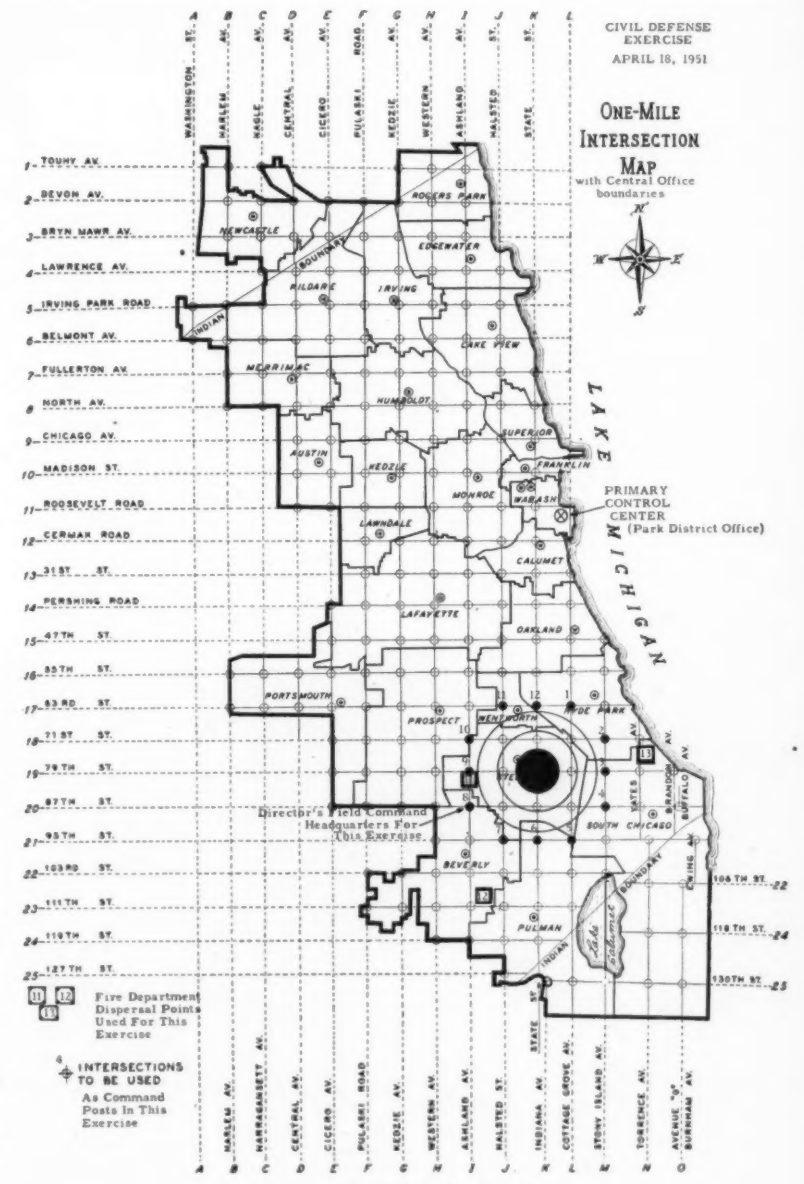
Chicago transmits its box alarms manually and the strokes are received at fire stations by red ink dots on tape. Chicago Fire Department registers do not perforate the tape as many cities do.

Signal 9-9-9-9 sent Chief Anthony J. Mullaney, assistant fire commissioner and director of civil defense, to dispersal headquarters No. 11 at Engine 129's house.

Chief Fire Marshal Jeremiah McAuliffe also reported to dispersal headquarters No. 11. Second Deputy Fire Marshal Thomas W. Powers took command at dispersal headquarters 12 at Engine 120's quarters. Albert H. Petersen, also a second deputy fire marshal, went to dispersal headquarters 13 at Engine 126's station and assumed command.

Battalion Chief Gerald J. Slattery reported to dispersal headquarters No. 11 and assumed command. Also reporting to dispersal headquarters No. 11 was Deputy Fire Commissioner Maloney; John L. Fenn, director of fire safety; Rev. Monsignor Gorman, fire department chaplain, and Chief Frank C. McAuliffe of the Chicago Fire Insurance Patrols.

Between five and 23 minutes after the 9-9-9-9 signal was transmitted, the following fire equipment arrived at dis-



Prepared by Illinois Bell Telephone Company

persal headquarters No. 11 from their regular stations: six engines, two hook and ladders, a rescue squad, one division marshal, three battalion chiefs, a gasoline wagon, and a mechanical service wagon. With the chief officers, this represented a total of 18 pieces of equipment and 69 fire department personnel, plus one fire insurance patrol with three fire insurance patrolmen.

The Commonwealth Edison company's communications car No. 698 arrived at this dispersal station together with three water pipe extension trucks. Also responding to the dispersal station were eight amateur radio cars and four cars from the Illinois Bell Telephone company.

An official of the water department, a Chicago Transit Authority bus, to be used as a repair unit, a five-ton crane from the building department, a man from the state's attorney's office and two hired trucks also reported to dispersal station No. 11.

At dispersal headquarters No. 12, where Second Deputy Powers was in charge, six engines, a hook and ladder, a rescue squad, a fire department ambulance, two battalion chiefs arrived between seven and 15 minutes after Signal 9-9-9-9 was struck. This group totalled 10 pieces of fire equipment and 45 fire department personnel.

Four ham radio operators with their cars, two trucks from the water extension department, a sewer department emergency truck, plus units from the Illinois Bell Telephone company and Commonwealth Edison company also reported to dispersal headquarters No. 12.

Second Deputy Albert Petersen was in charge at dispersal headquarters No. 13. Between seven and 14 minutes after the 9-9-9-9 signal was struck, eight engines, four hook and ladders, a rescue squad, three battalion chiefs, two division marshals, two ambulances, a fire insurance patrol, and a fire department electric service car reported to the headquarters. Total here was 22 pieces of equipment and 99 department personnel.

Another four ham radio cars also were on hand at 9:30 a.m. each with two men. A water pipe extension truck, and one from the sewer department, plus an Illinois Bell Telephone repair truck with two men, and a plumbing inspector also arrived shortly after the 9-9-9-9 signal.

Civil Air Patrol Cooperates

At 9:30 a.m. a helicopter and several aircraft from the civil air patrol took off. They kept constant radio communication with the nerve center of the operation, the Chicago Park District's administration building in Grant Park near Lake Michigan.

From this point all messages for help, rescue, and movements were relayed and directed with the aid of telephones, radio, and radio-telephone units in the cars of hams and in the planes.

Battalion Chief Edward E. Newell operated the two-way radio in the helicopter.

At 10 a.m., a hypothetical atomic air burst occurred, ground point zero, at 79th and State streets.

Anthony J. Mullaney, assistant fire commissioner, went to 87th street and Ashland avenue, and set up headquarters.

This intersection was one of 12 one-mile spaced command posts on the perimeter of the blast area (see map).

Chief fire officers in command at the three dispersal headquarters dispatched their forces to the 12 command posts. Command post locations and equipment sent to each follow:

Twelve Command Posts

Command Post 1: 63rd street and Cottage Grove avenue: Two engines, a fire department ambulance, a ham radio car, and a police car equipped with two-way radio. Division Marshal Lyons was in charge of this group on the outer periphery of the bomb area.

Command Post 2: 71st street and Stony Island avenue: One engine, a hook and ladder, two ham radio cars, a police radio-equipped squad car: The chief of the ninth battalion was in charge.

Command Post 3: 79th street and Stony Island avenue: Two engines, a fire ambulance, a medical division unit, a ham radio car, a police radio car, and units from the water meter division and water pipe extension. Second Deputy Fire Marshal Albert Petersen was in charge here.

Command Post 4: 87th street and Stony Island avenue: One engine and one hook and ladder; two ham radio units, a police radio car, all under command of the 19th battalion chief.

Command Post 5: 95th street and Cottage Grove avenue: One engine, one fire rescue squad, two ham radio units, a police radio car. It was later found that radio communications at this post were very poor due to some type of radio interference. The 14th battalion chief was in charge here.

Command Post 6: 95th and State streets: Two engines, with Second Deputy Marshal Thomas W. Powers in charge.

Command Post 7: 95th and Halsted streets: One engine and a rescue squad under command of the 17th battalion chief.

Command Post 8: 87th street and Ashland avenue: One engine, one hook and ladder, and a fire department gasoline truck, all under command of the 12th battalion chief.

Post 8 was the field command post for Civil Defense Director Mullaney. In addition to two ham radio cars, a police radio car and Illinois Bell Telephone company mobile telephones was a walkie-talkie radio operated by Captain Hasnerel who operated in constant communication with the helicopter walkie-talkie operated by Chief Newell.

With Chief Mullaney at this post was John L. Fenn, director of Safety; Monsignor Gorman, fire department chaplain; Frank C. McAuliffe, chief of the fire insurance patrol, Captain Joseph J. McCarthy, director of Chicago's fire department ambulance service; First Division Marshal Gibbons; Fourth Division Marshal Connors, and Sixth Division Marshal Joseph Flahive.

Command Post 9: 79th street and Ashland avenue: Two engines. This post was headquarters for Chief Fire Marshal Jeremiah McAuliffe who is the brother of Frank C. McAuliffe of the Chicago fire insurance patrols.

Battalion Chief Gerald Slattery was in charge of this command post although Chief McAuliffe made it his headquarters. Chief Slattery also operated a walkie-talkie radio and maintained contact with Chief Newell in the helicopter. Radio reception was reported as satisfactory.

Command Post 10: 71st street and Ashland avenue: One engine, and one rescue squad under direction of the Eighth Battalion Chief.

Command Post 11: 63rd and Halsted street: Two engines and Fire Insurance Patrol 4. These units were in charge of an acting fifth division marshal.

Command Post 12: 63rd and State streets (the site of the disastrous street-car-gasoline truck crash a year ago when 33 persons were burned to death). Two engines and a hook and ladder were here under command of the 16th battalion chief.

Other fire equipment which moved on the alert was Engine 58, the Fireboat Victor L. Schlaeger, one of the city's new fireboats. Engine 58 proceeded to the breakwater in Lake Michigan from its berth at the 92nd street bridge.

Engine company 129 and hook and ladder 50 remained in dispersal headquarters No. 11.

Engine 120 and hook and ladder 24 remained in dispersal headquarters No. 12.

Engine company 126 and hook and ladder 49 remained in dispersal headquarters No. 13.

These three engines and three hook and ladders remained in their home stations while equipment which reported to their stations on the 9-9-9-9 signal went to the command posts.

After the fire equipment and radio cars arrived at the command posts from the three dispersal headquarters they deployed to nearby intersections. Communications were then made between Chief Mullaney's post, between command posts, and the primary control center. All messages and orders were logged by division executives at primary control as a record of the exercise and for subsequent study.

Equipment Changes Quarters

To cover the large southside area left depleted of fire apparatus which was taking part in the exercise, the following equipment changed quarters:

Engine 9-Engine 63; Engine 21-45; Engine 25-61; Engine 28-64; Engine 29-54; Engine 75-62; Engine 101-93. Hook and ladder 9 went to hook and ladder 15's quarters and hook and ladder 31 changed to hook and ladder 16's station.

The chief of the 25th battalion changed quarters to the 19th battalion and the chief of the 12th battalion moved into the 17th battalion headquarters.

Ambulance 1 changed to Ambulance 4's house at Engine 50 and Ambulance 8 moved into Engine 121's quarters.

Light Wagon 3 changed quarters to the Englewood Fire Alarm Office, one of the city's two fire alarm offices. All civil defense action in this test (except for the company changes) took place in the Englewood office's alarm district which lies south of Pershing Road (39th street).

It is believed that the light wagon could supply emergency electric power to either of the fire alarm offices in case of a power failure during an actual atomic attack. Chicago has three light wagons.

Drillmaster James Furlong, who holds the rank of division marshal, changed quarters to the main fire alarm office on the sixth floor of the City Hall and was acting fire commissioner in the event of an extra alarm fire during the test.

(*Continued on page 712*)

Fire Service Ladders and Their Use—Part XV

Handling and Climbing Fire Department Ladders

By ROI B. WOOLLEY

Editor's Note: **The material for this Chapter has been adapted from the training instructions given firemen in many of our state and other fire schools and colleges, and in a number of representative municipal fire departments.**

Acknowledgment is made of the cooperation of the Committee on Firemen's Training, National Fire Protection Association, the Fire Department Instructor's Conference, and the International Association of Fire Chiefs. Special appreciation is extended the Joint Committee on Evolutions of the Fire Department Instructor's Conference, Chairman Richard E. Vernor, for permission to use the excellent photographs taken by Mr. H. F. Rothery, Photographer of the District of Columbia Fire Department, most of which are included in the Pictorial Training manual "Handling Hose and Ladders," published by the National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

It is suggested that readers review this installment with Chapter XIII, entitled "Preventive Maintenance of Fire Department Ladders" published in the June, 1951 FIRE ENGINEERING.

GOOD firemanship practice calls for not only knowledge of all types and kinds of fire ladders and their use, but the application of care and skill in handling and using them under all sorts of conditions.

There is a right and a wrong way to do everything; this applies with equal weight to the handling of fire department ladders. In the excitement and rush of attempting rescues, and of getting into action against fire, it is easy to forget or overlook the correct way of performing laddering operations, with resultant loss of efficiency, and possibly even worse consequences.

It has been argued that in laddering a building, as long as the ladder was raised and effected the rescue of the person in danger, it really did not matter much how the ladder was raised —whether the tip and butt were reversed, or whether, if an extension ladder, the truss or fly was away from or toward the building.

This argument is specious, of course, because if it were true, there would be no need to determine just what is the most efficient method of performing any operation or evolution. Doing things the better way—which is usually the right way—means doing them with less labor, in less time, and with less danger to the doers. It insures the best results from the operation by omitting guesswork and "trial and error" procedure.

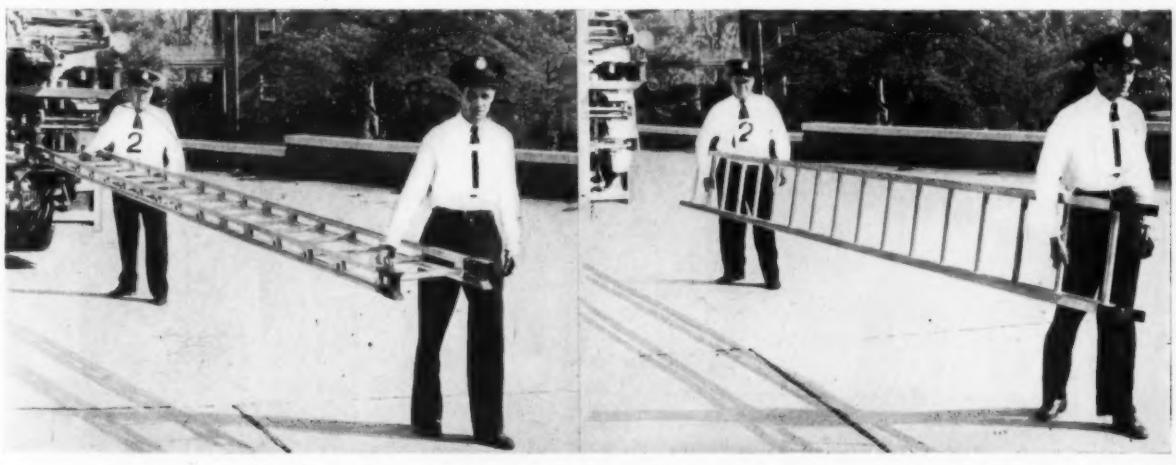
Good firemanship is at its best when firemen do things the right way instinctively the first time because they have learned from experience, as well as on the drill ground, what is the right and what is the wrong way. This applies to ladder operations as well as all other details of firemanship.

It is important that fire department ladders should at all times be handled with care to prevent injury to personnel and damage to the equipment, such as scratching, chafing and splintering. Incorrect handling and balancing of ladders also may cause unnecessary strain on the ladders and even personal injury to climbers. Whether at drill, demonstration, or on the fire ground, taking chances with ladders is poor practice.

When ladders are used, more especially at night, special care should be exercised in placing, raising and lowering them, as well as climbing and operating on them.

In carrying them, the lead men should watch out not to strike any person or object. The lead men in the carry also should watch out for uneven surfaces in the ground, or obstacles that might throw the carriers off-balance, or place sudden overweight upon a single carrier. More accidents occur in the carrying, raising and lowering of ladders than in operating on them. And more accidents involving ladders occur at night than during daytime. For this reason it is a good practice for laddermen to carry small flashlights in their turnouts. In handling large ladders if personnel is available, it is considered good practice by some officers to have a man precede the carry, preferably with a good light, when operating after dark.

In carrying ladders into buildings, or yards, care should be taken not to ram other firemen or workers with the ladder. Men have been seriously injured by being struck by the end of a ladder



Removing wall ladder from truck (two men). Figure 1 (left). Although one man can remove a ladder of this size and type from the truck, two men can do it better. Ladder should be brought out straight until clear of guides. Men on same side, with hands in center of second rung, palms forward. From this position it is a slight shift for an under-arm carry. Figure 2 (right). Under-arm carry of short wall ladder (two men). Men are ready to step forward. Lead man has arm free to ward off obstacles.

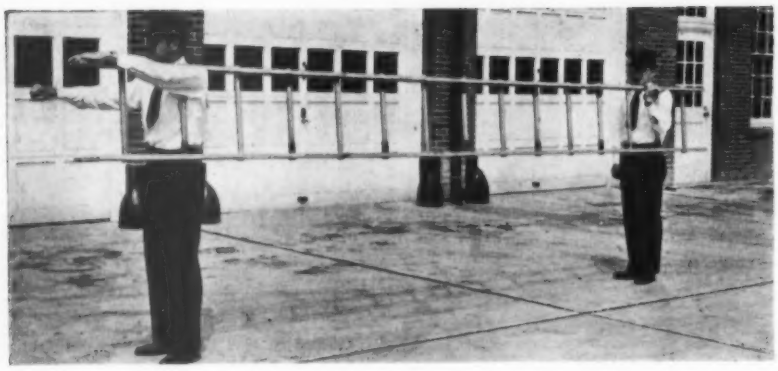


Figure 3. Shoulder carry for wall ladder (two men). A slight effort only is required to shift from under-arm carry to shoulder carry or to shoulder carry from ground pickup. Left arm of front man is carried through ladder behind second rung; rear man between last two rungs. Forward carrier has right arm free to fend obstacles and guard heel; left hand covers butt plate (position of left hand on ladder may vary).

which was carried into the area where they were working without any warning.

Teamwork is as assential in carying ladders as it is in erecting and lowering them. Some one in the crew must be boss in the carrying operation just as some one must be in charge of other laddering operations. Some one must give the signals and commands.

It is considered bad practice to "walk" ladders in shifting their position. Sliding and "rolling" ladders from one position to another is also equally poor procedure, except in an emergency.

Caution should be used in handling ladders in tournaments and contests, and in attempting "stunts" in exhibitions and demonstrations. Special ladder raises and acrobatic stunts may be excused in actual emergency life saving or fire fighting operations, but they have little place in sound firemanship. Some instructors consider it advisable to teach firemen these unusual and seldom-used ladder applications and evolutions, as is done in some fire schools and colleges, but where this is done men are cautioned on the limitations and hazards of such operations.

Removing Ladders From Apparatus

Because of the difference in types and sizes of ladders and their locations on fire apparatus, there can be no hard and fast recommended procedure for removing them from carriers that will meet all conditions and cases.

In many cities and towns ladders are carried on the sides of combination pumpers (there are also some old style service and aerial ladder trucks in operation on which straight and extension ladders are carried on the sides). Some combination trucks carry 20 or 24 ft. extension ladders on the same side with 10 ft. (or longer) roofing ladders. Others carry them separate, one on each side of the apparatus. In some instances, ladders are carried on top of (over) hose beds, on troughs or cradles supported by braces. Likewise, pompier ladders may be carried this way, or on the sides of pumper or ladder truck. All of this has a bearing on the question of removal of ladders.

Ladders may be fastened on the carrier by any one of a number of methods —clamp or ladder-lock; strap or tie. In modern ladder trucks, ground ladders are "locked-in" by a universal ladder-lock or catch.

At the risk of repetition, it should be said the old practice of carrying straight or extension ladders on hangers provided on the sides of service or aerial ladder trucks, above the running boards, is seldom followed in today's apparatus. The same thing applies to carrying the half-fold or "half-moon" life net on the running board of ladder trucks. The old "side-carry" was the cause of many accidents and made it more difficult to locate and remove other equipment from the vehicle.

In removing cradled ladders from ladder trucks, the ladder release must first be thrown or ladders that are otherwise carried must be unstrapped or unpinned. This is usually done by the driver. In aerial ladder work, it is customarily done by the tillerman, provided the ladder has tiller. Ladders are then removed as described later.

It should be emphasized that ladders should be removed from the cradle and guides carefully so as not to jam or strain or otherwise injure them. Where ground ladders are "nested" i.e.: one or more short ladders mounted or "stacked" on top of another in the ladder bed, the entire "nest" of ladders can be withdrawn as a unit, if sufficient men are available, and the whole assortment carried as a unit to the desired location, thus saving time in laddering operations.

When ladders are removed from a piece of apparatus and not required immediately (in order to remove a longer ladder it may be first necessary to re-

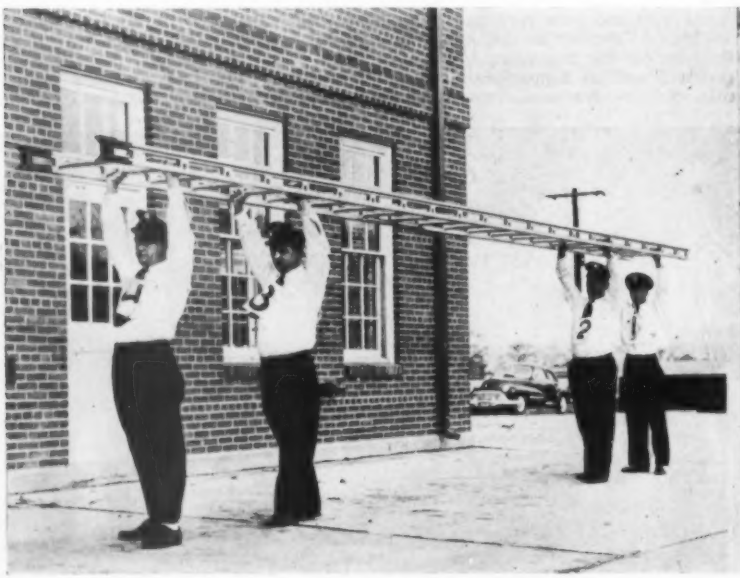


Figure 4 (left). Overhead carry of straight ladder (four men). This type carry may sometimes be necessary to shift ladder over or around obstacles. Men should be sufficiently far apart so as not to interfere with each other but as near ladder ends as possible. Note position of hands on rungs. Figure 5 (right). Shoulder carry of straight ladder (four men). Many departments prefer this type carry where ladder is to be moved any distance. Uneven surface of ground, or unequal height of men may throw heavier load on one or more men than others. Note hands on beams (forward men can use free arms to protect heel).

move the shorter one carried on it) care should be exercised in placing the unneeded ladders so they will not obstruct passageways or trip anyone—and where they will not be damaged. It is customary to place short wall ladders not immediately required, but which must be removed from the ladder bed, on the ground alongside and parallel to the building (on a beam) or close alongside the apparatus.

It may be necessary to remove the side ladders or those carried overhead on a pumper or hose truck, in order to reach the hose body or certain equipment. When this is done, the ladders should be carefully handled, as above.

Unless absolutely necessary, in removing ladders from apparatus one end should not be permitted to drop to the ground. This may injure it. In replacing ladders on apparatus, care should be taken to make sure the proper ends —head or foot—are in their correct position. In replacing ladders, also, should the ladder stick or jam on the guides, do not attempt to force in the ladder, but investigate to see whether the ladder is right-end-to, and right-side-up. Guides and slides (channels) for ladders in ladder trucks should be clearly marked to identify the length of respective ladders carried therein. Modern trucks have suitable electric lights to illuminate the ladder bed as well as the numbered channels. It will facilitate night work if these lights are controlled from the dash (driver's seat).

It is not considered good practice to carry turnouts or other gear on bedded ladders on apparatus. Such gear may seriously interfere with removal of ladders or the equipment may be lost while responding.

Ladder Climbing Practices

Every active fireman should be able to climb a ladder quickly and confidently. To an outsider this would seem to be an obvious fact, because ladders are so important in fire fighting. Yet there are many firemen who are timid when forced to get off the ground, not alone in small departments, but even in some of the largest. Inasmuch as a man who is frightened cannot be expected to work efficiently, and may be a hazard to his fellow firemen, all fire fighters should be able to climb and work on ladders at any height, without fear.

Figure 8. Position for leg-lock (locking in). One leg is placed through the ladder two rungs above rung supporting other foot, then brought back and through ladder, under rung over which knee is locked. Toe is then hooked over beam of ladder. In this position man would normally be operating off the left side of ladders (although this form of leg-lock is preferable, the foot may be locked over the rung if desired).

Men in the fire department are little different from other men. In any group, a certain percentage will be found upon whom height has no effect. Others in the group will be uneasy off the ground in greater or less degree. So it is with firemen.

Fortunately, this natural fear of height can be overcome by practice, just as the fear of the water can be overcome by the right kind of practice in swimming. The best time to drill a man in ladder climbing is upon his entrance into the department. After that, if his duty does not include much ladder work, he should be made to practice at intervals frequent enough to give him confidence.

Correct ladder climbing comes with proper instruction and constant practice. Good form in climbing is a combination of balance, smoothness, rhythm and agility. Ladders should be climbed briskly but smoothly. Balance is secured by keeping the body erect, the arms straight but not tense, the rhythm by the smoothness and coordination of action of arms and feet when ascending and descending.

A good ladderman does not hug the ladder in climbing. Hugging the ladder, keeping the body as close to the rungs as possible, with the consequent difficulty in bringing up the knees, is a sign of the timid climber. The good climber never looks down while climbing but slightly toward rungs just above his head. Hands grasp rungs firmly with palms down and thumb under the rungs. Unless carrying equipment, the hands do not grasp the beam or rails. Both hands should not be on the same rung at the same time.

Ladders should be climbed so as to provide maximum stability for the ladder at all times. Since the ladder weight is supported by the two beams resting against a solid surface, the climber should place his weight midway between. This calls for placing the feet in the center of the rung. The weight should be on the ball of the foot, except, perhaps when the ladder is covered with ice, when the arch of the foot may be used.

The preferred practice is to take every rung with the feet and every other rung with the hands, although some climbers choose to climb every rung with the feet and the hands. The best and smoothest rhythm is obtained (with least sway to the ladder and less "walking" of the poles) by climbing with right hand and right leg in unison, then left hand and left leg, keeping, as said, near the center of the ladder.

In climbing, the legs not the arms and hands, carry the weight of the body. The climber always faces the ladder in ascending and descending. Never at-

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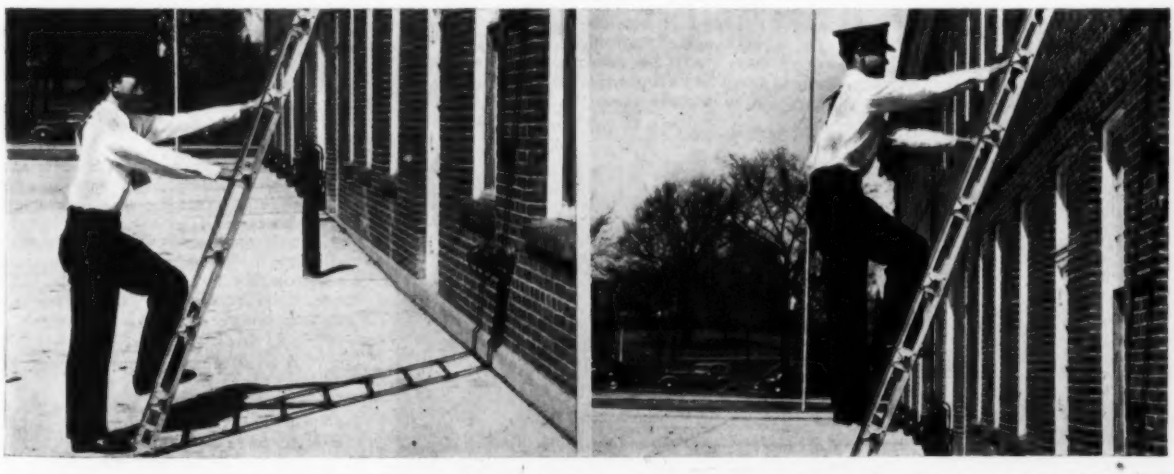


Figure 6 (left). Man in correct position for climbing ladder. Ball of foot on first rung, grasping rungs directly in front of body. Body erect, head and eyes up. This position calls for climbing with right leg and hand, and left leg and hand with smooth rhythm. Figure 7 (right). Correct position in climbing ladder. Balls of feet on rungs. Body erect and away from ladder. Knees directly in front of body. Arm reach not extended above eye level—body and eyes facing ladder. Eyes can easily take in the next rungs above, as climber mounts.

Recovery of Victims of Water Mishaps

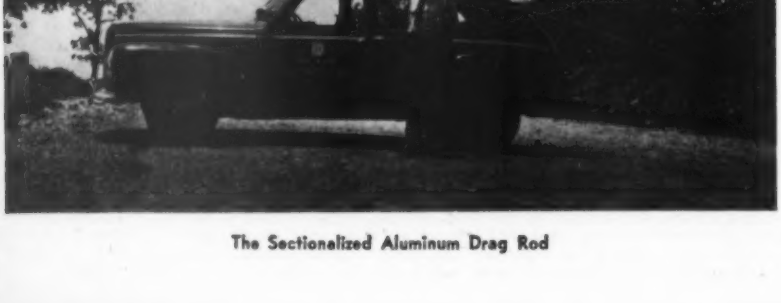
CHARLES A. KEY
US-TVA, Public Safety Service

TVA Public Safety Service is regularly called upon to assist other organizations such as police and fire departments, county sheriffs, the Red Cross, and the Coast Guard in recovering the bodies of victims of drowning, or the Public Safety Service effects recovery with its personnel alone, when outside aid is not immediately available.

To operate effectively at the scenes of such tragedies, TVA has devised dragging equipment based upon its own experience and the advice of organizations and individuals with years of background in water mishaps. The several types of drags used by TVA are illustrated herein. Some of the drags and techniques of dragging operations are suggested in a manual issued by TVA in 1947. Also described are some modifications and refinements which have been adopted as the result of experience gained since 1947.

The most widely used and most versatile device is the chain drag with the hooks secured to the chain by cord. It is cheaply made and is effective under more conditions than other drags. Its two weaknesses are the small latitudinal area covered in each sweep of the drag and a tendency on the part of the hooks to become snarled in the chain, thereby rendering them useless for snagging. A recent experimental innovation in the chain drag has three hooks brazed onto a small steel bar, as illustrated. The chief value of this drag is the assurance of 360° coverage by the hooks in the chain, which, being brazed to the bar, do not become entangled in the chain. It is not as simple to construct as the older model chain drag, but thus far has proved very effective.

A variation of the pole drag, usually made from a bamboo cane with fish hooks tied on the small end, is an aluminum rod of three 10-foot sections. The aluminum rod can be used at much greater depths than the bamboo cane and can be broken down for convenient transportation.



The Sectionalized Aluminum Drag Rod

No drag, whether heavy or light, is worth anything unless it is wisely used. No set of rules will cover every situation, but there are certain suggestions which, if followed, will generally assist in bringing about early recovery of the bodies of drowning victims.

Locating and Marking the Spot of the Drowning

If a precise location of the accident spot cannot be made because of lack of witnesses, such evidence as camp sites, parked cars, footprints and floating articles may be used. Determining the prevailing wind currents, and weather, at the approximate time of the accident, together with the knowledge of the habits of, and points frequented by, the missing party, may be helpful in determining the probable location of the body.

Unless unusual currents exist, the body of a drowned person will sink straight to the bottom, rise slightly, then settle back to the bottom. It will tend to remain stationary unless moved by force. Searchers should keep in mind, however, that the body of a drowned person contains gases, air, and other elements which make it relatively buoyant and subject to being very easily moved. Therefore, every effort should be made to prevent improper dragging, or dragging with ineffective equipment.

Marking may be done with conventional anchored buoys or with floats improvised from life jackets or cushions, boat paddles, glass jugs and the like. If eye-witness accounts differ as to the exact location—and frequently they do, particularly in large bodies of water—mark off with floats the entire area to be dragged. If possible, line the markers up with some stationary object ashore, so they may be relocated in the original positions if currents or wave wash should move them during the search.

News of a water accident spreads rapidly, and usually a crowd soon gathers at the scene, thereby providing ample personnel for dragging and search crews. Generally, too, privately owned boats are available in the vicinity.

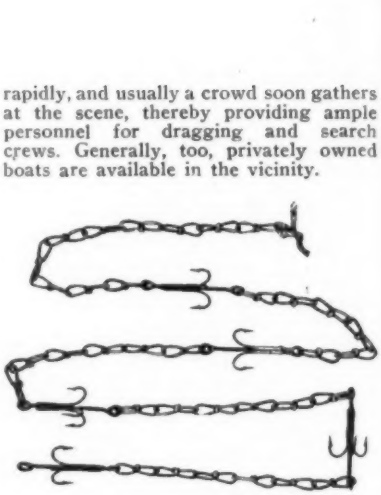


Fig. 1

Chain Drag Used for the Recovery of Drowned Persons. In the Construction of This Drag Three Fish Hooks Are Brazed as Shown at 120 Degrees Apart on the Bar. The Heat Created by Brazing Takes the Temper Out of the Hooks, Allowing Them to Straighten Out in the Event a Solid Object Is Contacted. The Eye at the Trailing End of the Drag Allows Weights to Be Attached as Needed

The crews, two to a boat, one for rowing and one for dragging, should be organized under the direction of one man. If the dragging operation is a large one, as is often occasioned by multiple drowings and uncertainty as to location of the victims in a large body of water, the leader should have a deputy.

Wherever available, the assistance of other organizations such as the Red Cross and the Coast Guard should be requested.

All dragging crews and other persons officially connected with the recovery effort should wear life jackets at all times while in boats.

Boats

The boats, except in streams with heavy running currents, should be manually operated—row or paddle—because motor boats tend to move too fast for the erratic stop and start maneuvering necessary for good dragging operations. The prop wash of power boats could cause displacement of a half-buoyant drowned body.

Dragging Operations

Dragging operations should begin at the spot nearest where the body is presumed to have gone down. If this spot is in shallow water near the shore, the drag should be parallel to the shore, working toward shore. In shallow water, it is possible, but unlikely, that wave

action from wind or boats will move the body towards shore.

The length of rope to be used with various drags will vary with the depth of the water, but in general will not be shorter than three times the depth of the water. Persons holding drag lines should have a secure position in the boat and should so hold their slack rope that snagging a substantial object will not snatch them from the boat.

Chain Drag. Experience shows that in most instances the best drag consists of a lightweight chain (similar to porch-swing chain), about 20 feet long, with No. 10-0 fish hooks secured at intervals of 10 to 12 inches and staggered as to relative location. (See Figure 2.) The hooks should be fastened with cord that will break if the hook catches in a stump or other heavy object and the chain is jerked. This drag is pulled lengthwise with a 1/2-inch rope. The effectiveness of this drag is attributed to the fact that it is comparatively light, enabling an experienced operator, by holding the line in his hand, to determine by feel when the drag has come in contact with a body. This drag is flexible and will work around and over such obstructions as stumps, logs, and rocks. This type of drag should be used in all cases where conditions permit. The chain is kept in a coil and is easily stored and transported.

Chain Drag - Most Effective

Fig. 2

Dragging should be systematic and according to a definite pattern in straight lines back and forth over the area, each successive line of drag being moved sidewise the width of the drag coverage. The drag should be kept on the bottom at all times and should be kept in the hands of the operator rather than being fastened to the boat.

One of the most important principles of effective dragging is the maintenance of a slow, controlled speed of the boats pulling drags. Boat speeds should not exceed one mile per hour, subject to instant stopping. Slow speed is absolutely necessary because a very meager catch onto the flesh or clothing of the submerged body may be sufficient to effect recovery provided the person holding the drag line is alert, feels the contact, and is able to stop the boat and properly handle the line.

The location of drownings in relatively deep, impounded waters, with little current, usually may be reliably marked, and recovery should result in a reasonably short time by application of systematic dragging operations. Two boats operating by plan can accomplish much more than several haphazardly operated craft.

Operation of a flotilla of ten to twenty boats lashed together, gunwale to gunwale and propelled by one inboard motor boat on each extremity is sometimes effective for searching extensive areas when the location of a drowned body in a large water area may not be more than roughly estimated. For obvious reasons, however, flotilla dragging depends upon calm water and weather. And, since use of the flotilla system will involve much more personnel and equipment than the use of one or two boats, a much higher degree of organization is demanded. In addition to the leader, there should be deputies who would (a) be responsible for maintenance of equipment, (b) actively supervise the actual dragging operations, (c) operate a tender for transportation of dragging equipment, (d) remove underwater obstructions such as fences, and (e) obtain crews and relief crews to keep the flotilla going.

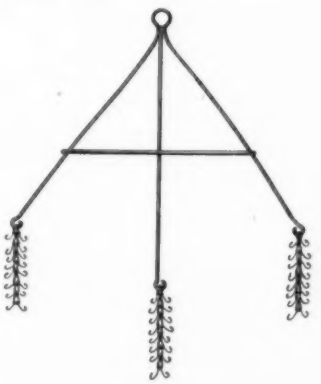
In flowing streams, depending on the size, depth, and swiftness of the stream, dragging operations are about the same as for pond and lake areas. Some variation, however, is indicated. Drownings in streams usually occur in fairly deep pools—as a result of persons swimming or wading, or fishermen unexpectedly stepping off in deep water. In most cases, bodies can be located and recovered in a comparatively small expanse of water. Precautions should be taken to prevent improper dragging, which might result in moving a body over sand bars or shoals, or into swift water where it could be carried off.

In general, and providing bottom conditions permit, dragging in streams is best done crosswise of the stream and never downstream, toward a sand bar, or a shoal, or toward an area of swift water.

Record and Reports

After each of these tragedies in which TVA aids in the recovery of the victims, a report is prepared on a form designed for the purpose. This report records the circumstances of the case, and the data contained therein is circulated to all divisions in TVA having an interest in such matters, i.e., those with contacts in communities and agencies interested in water safety. The cumulative experience as garnered from the reports is published in a pamphlet annually, and this pamphlet is given wide circulation within the Tennessee Valley among community and civic organizations, boat dock operators, and boat owners and their associations.

Three-Prong Drag. A drag that has been commonly used consists of a three-prong arrangement made of 3/8-inch iron rods 30 inches long welded in a V shape with a center prong. (See Figure 3.) The three prongs are spaced on 10-inch centers at their widest extremities. Attached to each prong is an 8-inch length of 3/8-inch chain. To each link of chain, two No. 10-0 fish hooks are welded. This drag is pulled with a 3/8-inch rope. Where bushes, posts, etc., are present, this heavier drag may be more effective than the light chain drag.



Three Prong Drag

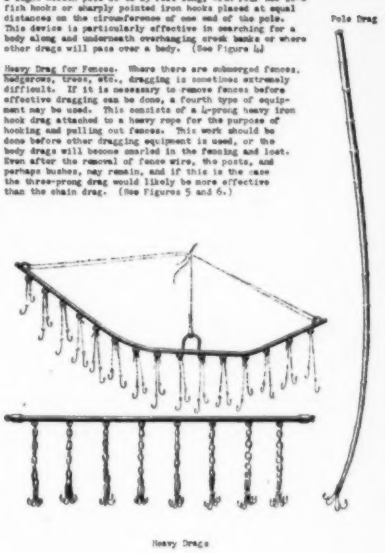
Fig. 3

TVA's interest in water safety goes deeper than the act of assisting in recovery of victims of water mishaps. TVA cooperates with other organizations concerned with water safety work. By water safety demonstrations, and by movies and talk—even to the children in school—it is hoped to stimulate the communities to an aggressive awareness in saving the lives of their own residents and children.

Very definite and encouraging responses have been gained in these efforts, and the Public Safety Service looks toward the day when the pads of blank forms of water mishaps reports will gather dust from disuse.

Pole Drag. A third type of effective drag consists of a light wooden pole 20 to 25 feet long, with four No. 10-0 fish hooks or sharply pointed iron hooks placed at equal distances on the circumference of one end of the pole. This device is particularly effective in searching for a body along and underneath overhanging brush banks or where other drags will pass over a body. (See Figure 4.)

Heavy Drag for Fences. Where there are submerged fences, hedgerows, trees, etc., dragging is sometimes extremely difficult. If it is necessary to remove fences before effective dragging can be done, a fourth type of equipment may be used. This consists of a 4-prong heavy iron hook drag attached to a heavy rope for the purpose of hooking and pulling out fences. This work should be done before other dragging equipment is used, or the body drags will become snarled in the fencing and lost. Even after the removal of fence wire, the posts, and perhaps bushes, may remain, and if this is the case the three-prong drag would likely be more effective than the chain drag. (See Figures 5 and 6.)



Pole Drag

Heavy Drags

Fig. 4, 5, 6

100-Year History of the Salt Lake City Department

The Salt Lake City Fire Department, Chief J. K. Piercey, has issued a simple but interesting historical account of the growth of the organization from its inception in 1853 to the present. It is disclosed that in 1871 the department was reorganized and a Silsby steamer added. In 1879 the city council began paying volunteers 25 cents an hour for the time they were engaged in answering calls. This continued until 1883 when a demand for 50 cents an hour was made.

The council thereupon concluded a paid department would be cheaper, and in September, 1883, the volunteer organization was disbanded. The last chief of the volunteer department was George M. Ottinger. He also was first to head the paid department.

From its beginning the paid organization strove to improve its fire fighting methods and techniques, and to secure better conditions for the men. In 1919 the two-platoon system went into effect.

As of June 1, 1951, the department had 216 members, consisting of chief of department; 4 assistant chiefs, 4 battalion chiefs, 14 captains, 22 lieutenants and 171 firemen.

The department is divided into divisions, including combat; fire prevention and records; training; alarm and signal and maintenance. The department's first gasoline motor pumping engine was secured in 1911. The Annual Firemen's Training School, sponsored by the Salt Lake City Fire Department, was first held in 1945. The Sixth School, held in June, 1950, had an attendance of 383.

Chief Piercey, in the introductory to the brief history, emphasizes the need of maintaining a historical record of the fire department. Memory cannot be counted upon, he believes.

New Courses in Fire Education Leading to College Degrees

University of Southern California Gives Boost to Professionalizing of Fire Service

By HOYT CRIDER*

SOMETHING new has been added to fire education in the United States.

The University of Southern California, in cooperation with John H. Alderson, President of International Association of Fire Chiefs and a committee of fire chiefs representing the Southern Division of the California Fire Chiefs' Association, have developed a new program leading to a college degree with specialization in fire administration.

Began in Fall, 1950

More than 200 firemen enrolled in university-level fire training courses in the Civic Center Division of the University of Southern California School of Public Administration during the Fall Semester of 1950. This was the official beginning of the University of Southern California program in fire administration.

The immediate response to the program, together with the efforts of the committee of fire chiefs in developing the curriculum, have led the School of Public Administration to establish the program on a permanent basis. A Bachelor of Science in Public Administration degree is now offered with fire administration as a field of concentration.

Primary credit for the success of the program is due to Chief William J. Taylor of the Burbank Fire Department and to members of his committee of prominent fire chiefs representing the Southern California Division of the California Fire Chiefs' Association.

A Group Effort

This committee includes Chief John Alderson of the Los Angeles Fire Department, Chief Charles Carrell of the Santa Monica Fire Department, Chief S. H. Edmondson of the Pasadena Fire Department, Chief James Nellis of the Arcadia Fire Department, and Chief Frank Sandeman of the Long Beach Fire Department.

Working with them in curriculum planning have been Emery E. Olson, Dean of the S.C. School of Public Administration; John D. Gerletti, Assistant Professor of Public Administration and coordinator of the fire administration program; and Harry A. Marlow, Director of the Civic Center Division of the School of Public Administration.

The fire program is no transient affair to these men. Chief Alderson and Dean Olson seriously considered such a venture as this often during the early years of the School. The Civic Center Division, an integral part of the School since its inception in 1929, has been directed from the start toward the provision of professional university level training for members of the public service in the Los Angeles region.

The fire program is the most recent addition to a varied curriculum now including law enforcement, financial administration, personnel administration, delinquency control, municipal management, recreation administration, and a number of other fields of public administration.

Definite Objectives

The program offers the following definite objectives:

1. Professional advancement through specific courses taken for individual improvement.
2. A Certificate in Public Administration with fire administration as a field of specialization.
3. A Bachelor of Science degree with major in public administration and specialization in fire administration.
4. Degrees of Master of Science in Public Administration and Doctor of Public Administration with fire administration as a field of concentration.

The fire program objectives do not conflict with existing training objectives in local, state, and federal agencies. Rather, this program is designed to go above and beyond the scope of agency training programs, and no future conflict with such program is anticipated.

Although the immediate academic objective is a regular nationally-recognized college degree with emphasis in the field, the program has long ranged objectives of far greater importance to the communities in this area and to the fire service profession in general. It aims to raise the standards and the dignity of the fire service as a profession, and to enhance the efficiency and effectiveness of fire services in this area.

In short, this program proposes to do for the fire profession what other professional schools and colleges have done and are doing for other professions. The ultimate impact of this program will be felt in the higher standards of service and the increased professional responsibility and efficiency which it will bring to the service.

Immediate Results

In terms of immediate results, on the other hand, the program has already proved worthwhile. The 200 firemen enrolled in the six courses during the Fall Semester, 1950, were from 22 different fire departments in the Los Angeles region. Two of these firemen were full-time students.

At present there are about 300 firemen enrolled in eight fire courses for a total of over 500 registrations. They are currently taking nearly 1,200 semester unit-hours of course work, and five of them are now working toward advanced degrees.

Reactions to the program among members of the fire service across the nation have been most favorable. Requests for information regarding the program have been received from numerous fire agencies and from universities and colleges all over the country. Inquiries have also been received from such foreign countries as Mexico, Brazil, Turkey, Israel, and other nations over the globe.

Convenient to Students

An important feature in the success of this program is its convenience, particularly for students employed full-time. All courses in the program are offered in identical and interchangeable sections on separate days of the week. A fireman on duty when his regular class meets may attend the alternate section held at the same hour on a different day. He receives the same identical instruction and assignment as in his regular class section.

Another convenience is the opportunity for summer study afforded serious minded students. The program has been so designed that there will always be a summer program for those who wish to attend.

Three Types of Courses

Courses in the program have been carefully selected by the curriculum committee to fill the educational and professional needs of the fire service career employee. Three types of courses are offered—specialized fire courses, professional courses in the fundamentals of public administration, and courses of a broad educational nature. The curriculum is divided about equally among these three concentric areas of study.

The specialized fire courses include introduction to fire administration, fire company administration, advanced fire administration, legal aspects of fire administration, arson investigation, fire prevention and inspection administration, special industrial fire hazards, problems of fire administration buildings and equipment, hydraulics for firemen, and fire insurance grading and classification.

The public administration core courses in the fire administration program include government report writing, supervisory training, and personnel training

(*Continued on page* 681)

*Civic Center Division, School of Public Administration, University of Southern California, Los Angeles, Calif.

NEW ORLEANS FIRE DEPARTMENT PERFECTS CIVIL DEFENSE PLANS

Provide For Taking Water from River; Mutual Aid Set-Up to Cover Neighboring Cities

UNDER the newly approved civil defense plans of the City of New Orleans, the Fire Department, headed by Fire Chief Howard L. Dey, will play a foremost part. The plan, already in effect, provides for the Chief Engineer (Howard L. Dey) receiving all reports from the City Fire Marshal (Deputy Chief Patrick L. Burke). The latter, in turn, receives reports from two Assistant Fire Marshals in areas on the north side and two on the south side of Canal street. The Deputy Fire Marshals for the south side are: District Chiefs Arthur Heyd and Hewitt Thevenot; for the north side area, Gerald Sumners and Edward O'Brien.

All personnel below these five ranking fire department officials are civilians who are assigned as fire lookouts, covering the various deputy fire marshal's wards. Assigned to each area also are fuel equipment and supply trucks, together with some 262 battalion marshals and various precinct fire fighting units, each of which is to include three portable pumps and equipment, two walkie talkie radios, three pump operators, and nine fire fighters. Ward radio communication is also set up for each of the 17 wards in both the northern and the southern areas.

According to the graphic chart of the set-up of the fire fighting brigade of the city's civil defense, the following equipment is required: Portable pumps and equipment: three to each precinct, or a total of 786. Hose, 1½-in.: 600 ft. to each pump, 471,600 ft.; two walkie talkie units to each ward: 1,572; and two walkie talkies to each precinct—a total of 558.

The various 41 fire stations throughout the city are used as recruiting centers for civil defense. Training, to which the department gives considerable attention, is based primarily upon pump operation and relaying from lakes, ponds and rivers rather than fire hydrants. Men are graduated after 60 hours training.

Under the department's plan, the hotel managers of the city, as well as the department stores and office building executives, and the industrial plants, are being trained in the use of their sprinkler and standpipe systems on the assumption that the fire department may not be able to send any equipment to assist them in case of fire in their buildings. They, in turn, must also train their personnel along these lines. Although this training is essentially a war measure, the department believes it is the best way to impress upon such personnel the importance of such equipment and of the need of being able to operate it in normal times.

This training has been in progress for over 20 months. Cooperating with the department in the training program is the National Board of Fire Underwriters. The fire department has also completed training of the Coast Guard Reserves, U. S. Engineer Reserves and the U. S. Air Force Reserves.

Drafting water from the Mississippi River, simulating break in water main, civil defense practice by the New Orleans Fire Department.

As part of the New Orleans program, the department has drafted water from the Mississippi River, using a centrifugal pumper as a supply engine. The department has also engaged in the maneuver of delivering a stream from a 320-foot tower of the Hibernia Bank Building in the city, using a single pumper and 2½-in. hose, based on the assumption that the inside standpipe and sprinkler systems might be out of order.

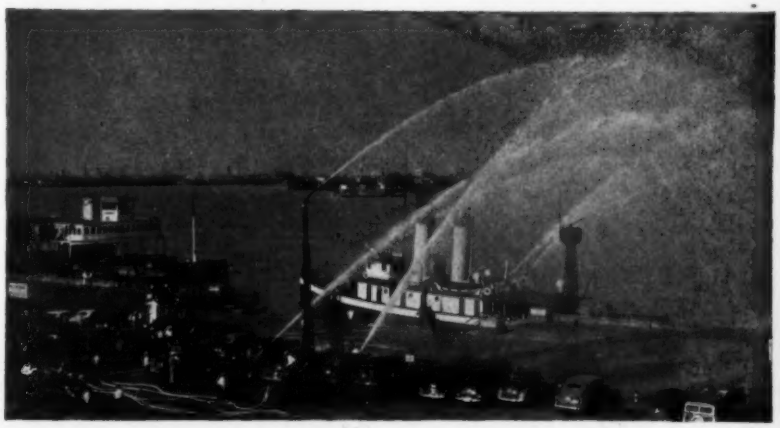
Still another evolution consists of utilizing the department's fireboat to supply water to land engines, anticipating the possibility that city water mains would be knocked out in an attack.

Communications

Serious thought has been given to emergency communications. Walkie talkies—or back-pack radios, have been installed, along with 2-way FM radiotelephone, to supplement the normal fire alarm system. According to Cheif Dey: "We have four means of communication, the most positive being 'walkie talkie,' in case of a bombing attack on this city." He points out that creation and installation of this system has not been a one-man's job but rather is the outcome of studious planning of the entire department's staff, with the cooperation of the two instructors.

The department is prepared too at all times to assist "any chief in the country" who may need information that it can give, according to Chief Dey, who emphasizes that plans should be in effect for moving engines from one city to another. There should be a definite understanding, he believes, and where the water supply is such in each city that it permits drafting, predetermined plans should be worked out by the respective fire chiefs to anticipate needs. Although the New Orleans staff has dealt with conditions as they exist and may exist in that city, Chief Dey reports consideration has been given to the possibility of sending its pumping engines to Baton Rouge, La., to replace pumpers which that city might send to Shreveport to replace engines that had in turn been sent to assist some industrial area of Texas. This is merely conjecture, states the Chief, but it has developed a line of thinking, which is helpful. Fire Chiefs might well work out some sort of agreement along these lines, according to Chief Dey, even if by correspondence.

(*Continued on page 691*



Rehearsing operations, with a simulated break in water mains. Fire boat furnishes water to land fire engines, a detail of civil defense practice, New Orleans, La.

TEL-AVIV FIRE BRIGADE USES AMERICAN BUILT APPARATUS

Eight Appliances in Two Fire Stations Protect City of 500,000 Persons

A Staff Report

SOME twenty-six years ago, Mr. Aba Cohen, today the Honorary President of the Tel-Aviv Fire Brigade, assembled volunteers for the first fire brigade in Israel (Palestine, before May 15, 1948) and in Tel-Aviv, then a town fourteen years old, with a population of about 12,000.

The group of amateur fire fighters volunteered for night duties but there appears to be some question of the extent of daytime responses, as most of the members had to labor for their existence during daylight hours.

Whenever fire broke out in those days, an alarm was sounded, doubtless by Mr. Cohen, and the first "pump"—a two-wheeled affair, pulled by horses (when horses were available) responded. It is related, further, that many of the volunteers responded on horseback, as sort of cavalry fire fighters. It is definitely established that the men themselves on no occasion had to pull the pump to the scene of the fire.

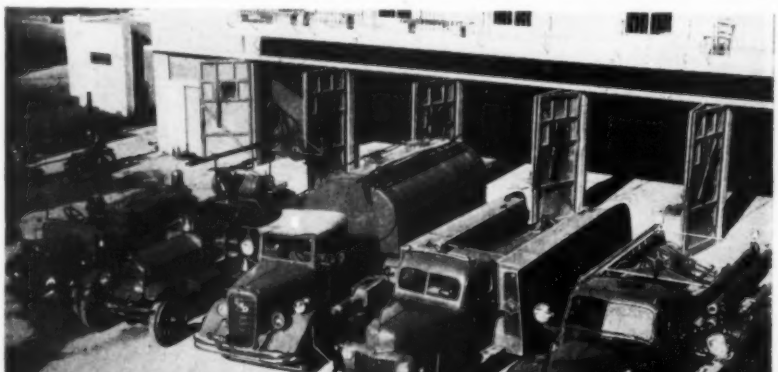
Today conditions are vastly different. There are two fire stations located in the municipal area of Tel-Aviv-Jaffa, the latter being a former Arab town, taken by the Israel Army during the war of 1948-9. Throughout all Israel there are approximately twenty-five more fire brigades in municpal areas and about 200 rural and agricultural units which, for the most part, fight brush and forest fires.

The Tel-Aviv Fire Brigade has eight units or "appliances" in town and seven more in the outskirts. They protect a municipal area of about seventy-five square miles with a population of about half a million.

Manning this equipment are forty-one paid firemen, who work shifts of twenty-four hours on and twenty-four hours off. For the most part, the paid personnel are officers and drivers. In addition there are more than 300 volunteers and ten women in the brigade.

There is no central fire alarm system, as all fire calls are received over the public owned telephone system. The fire phone number is 2222.

Among its rolling stock, the brigade owns two GMC trucks, built by Howe in 1949. These have capacities of 500 gpm and are equipped with booster tanks. Also some of the apparatus is equipped with two-way radio. The other units were added in the years 1920-47. Included in the latter is an American LaFrance 750 gpm pumper and "hose cart" presented to Tel-Aviv's brigade in 1947 by the New York Fire Department. There is, in addition, a 500 gpm unit built in 1935 by Merriweather & Sons, England. Most of the Tel-Aviv pumpers have water tanks of 500-850 gallon capacity. All other apparatus units were built locally on Ford chassis for the fire brigade.



Apparatus of the Tel-Aviv Fire Brigade at Headquarters Station. Note interesting combination of ancient and modern vehicles and the emphasis on water carriers.

Rear view of the present headquarters of the Tel-Aviv Fire Brigade, showing court and two pieces of the Brigade's apparatus.

There is also a F.W.D. tractor with two semi-trailers, each having a capacity of 2,000 gallons of water, and a Sigmund pump. In addition, the brigade owns a 1933 German made mechanical ladder (fifty foot), towed by a fire engine. This ladder, incidentally, has been used only at five fires, and four of these occasions were to rescue persons from collapsed buildings. It was also employed once as a bridge to rescue people from a bus which had fallen into the river.

Inspections Keep Down Fires

Although the brigade lacks the benefit of fire prevention laws, it does strive its best to prevent fires. Its inspections and other fire prevention efforts doubtless have helped minimize the fire losses. Of the total of 500 fires yearly, about ten per cent are considered "big ones."

There are about 2,000 hydrant classed as two-inch and twenty-five rated as three-inch, most of them of the underground or "flush" type. Only seventeen of the two-inch hydrants are above ground. It is reported that the brigade seldom connects the pump direct to the

The founder of the Tel-Aviv Fire Brigade at 71. Today he is honorary president of Israel Fire Brigades and of the Tel-Aviv Fire Brigade.

hydrant but uses the latter to fill the booster tank from whence it is pumped by the main pump to the fire, as the pressure in the system varies between thirty and sixty pounds.

As might be expected with such a low fire ratio to the size of the city, the mortality rate is low, not exceeding ten in an average year. This low casualty rate may also be partly due to the type of fire resistive type of construction. It is seldom that a fire extends to adjoining property. The building laws forbid the erection of one building connected with another, and there must be an open space of not less than seven yards around each building.

As is so true of other countries, most of the victims of fire are children. In the last twelve months the total number of victims jumped to twenty, owing to the high rate of immigration, the use of temporary hut and barracks housing and stoves and "primus" heating devices, which have a tendency to overturn and spread fire.

The Israel Fire Brigades have a union. Its President is Mr. E. Dekel, who has held the post since 1940 at which time he was Chief Officer of the brigade. The Deputy Chief Officer is Mr. A. Kaspi. Fire Officers are Mr. A. Ankori and E. Baron. The Secretary of the brigade is Mr. S. Gershuny.

FIRE FIGHTING IN A SMALL TOWN COVERING A PERIOD OF 56 YEARS

Some Observations on Changing Methods in Fire Extinguishment

By Walter W. Stephen
Chief of Fire Dept., Monsanto Chemical Co., Anniston, Ala.

IT is interesting to evaluate the proggress and advancementof the science of fire fighting in a community by observing examples of it that have taken place at different dates and periods during the past and by analyzing the results secured.

In the following paragraphs, the writer gives descriptions of a number of fires that occurred in a small town with a population of less than two thousand. The time during which they happened covers a period of sixty-five years. They are divided into three groups. All in each group were in the same type of occupancy and in the same neighborhood. In fact, several of them were in the same building. The writer was present at most of them, except the earliest ones, and these were described in detail by the man who was the chief then.

GROUP I, CASE 1, DATE 1895: Building was a large two-story frame residence. Fire had involved an area ten feet across and around a chimney. Town had then no waterworks system and the water in the well was below the limit from which the hand pumping engine that was available could take suction, and the house appeared to be doomed.

The fire bell was rung. Hand drawn ladder truck was towed by a horse-propelled dray and made a run to the fire in three minutes. Fifty and thirty-five-foot extension ladders and two straight twenty-five foot ladders were raised quickly to the roof and at least forty excellently trained volunteer firemen, assisted by everyone in the neighborhood, operated four bucket lines with leather buckets from ladder truck, getting water from a number of wells. Half a dozen axemen also went to the roof, and it is a remarkable fact that this fire, that would have required hard work with a booster line by a modern fire brigade, was thus put out and the house was saved.

GROUP I, CASE 2, DATE, 1911: Large two-story frame residence. A major part of shingle roof and attic was involved by fire. The fire bell was rung and horse drawn hose wagon made a quick run to the fire and laid two lines of 2½-inch hose, with long, open play pipes, from hydrants that had a good working pressure. One line was taken to roof with considerable difficulty in moving the open nozzle up a ladder and the other stream was operated from the ground. Fire was extinguished with loss of most of the room, some damage to the second floor, and water damage all over the building.

GROUP I, CASE 3, DATE, 1928: Large two-story frame residence. Most of shingle roof and attic were involved by fire. Fire siren at city hall was blown the Model T Ford hose truck made quick run to fire and laid two hydrant lines of 2½-inch hose with controlling nozzles.

Lines were taken up stairway to second floor and streams were operated into the attic and on the under side of the burning roof from short ladders through holes pulled in the ceiling. Fire was knocked down quickly and then overhauled with leader lines of 1½-inch hose. Contents of rooms under fire were covered by home made salvage covers that had been constructed from old army tents, and the damage by water was remarkably little.

GROUP I, CASE 4; DATE, 1939: Large two-story frame residence. Most of shingle roof and attic were involved by fire. Fire siren was blown, and Model A Ford hose truck quickly arrived at fire and laid one hydrant line of 2½-inch hose. This was branched into two 1½-inch lines of hose with fog nozzles. Lines were taken up stairway to second floor and operated from short ladders through holes in ceiling. Almost immediately after the fog streams began working into the attic, the fire, which had been rolling up from the roof fiercely into the air, began going down as if by magic. In a few minutes the blaze was out, with practically no water damage in the building. In the words of one volunteer fireman "The water killed the fire and the fire seemed to eat up the water."

GROUP I, CASE 5; DATE, 1950: One-story frame residence. Fire had involved entire attic under composition roof. Fire siren was blown. 500 gallon pumper, manned by paid city employees, who acted as both policemen and firemen, aided by volunteers, made quick run to fire and began operating two streams from booster lines from short ladders in building through holes in ceiling into attic. One line had a fog nozzle and the other an ordinary controlling nozzle. Pumper was discharging through these

The old Tel-Aviv fire station (about 1936) and some apparatus.

1-inch hose lines from a 500-gallon water tank on the equipment, using a one per cent solution of a "wetting" agent. A 2½-inch hose line was also pulled off to a street hydrant but before it could have been operated, the fire was being gotten under control and was extinguished well before the tank on the truck was empty. There was little or no water dripping down from the ceiling afterward and no damage from it.

GROUP II, CASE 1; DATE, 1885: Two-story brick mercantile building. Most of interior of first floor was involved by fire. Fire bell was rung. Hand operated Rumsey pumping engine was pulled from nearby fire house, suction hose was dropped into brick cistern under the street and a number of men began working the pump brakes and pumping streams from long open "branch" play pipes, through two lines of hose that seemed to be two inches in diameter and made of rubber.

Front and rear doors of building were opened and pipemen entered and with very skillful use of streams extinguished the fire with the loss of about half the contents of the building and much water damage. Fire was confined to first floor, where most of ceiling was burned away.

Building seems to have been expertly ventilated by opening it front and rear, and elderly men to whom I have talked have told me that they understood and practiced venting buildings at that early date, although in many cases they could not do this because, with the small qualities of water they had available, a vented fire could easily get away before they could knock it down.

GROUP II, CASE 2; DATE, 1910: Two-story brick mercantile building. Fire had involved central part of second floor and could not be reached because boxes of goods were piled to the ceiling and blocked both front and rear windows, there being no side wall openings. Fire bell was rung. Horse drawn hose wagon laid line of 2½-inch hose, with long open nozzle.

This was taken to roof of one-story building at one side of the structure involved. Hole was picked and cut through brick wall and stream was operated through it into second floor at the seat of the fire, which was thus gotten under control. Line was then taken into building, water at the plug being cut off as it was moved, and fire was finished by stream with water turned partly on to lessen, as much as possible, the damage from this. The handling of this fire and its extinguishment without severe loss to building was made possible because these volunteer firemen had a very thorough and expert knowledge of the structure and its layout and contents.

GROUP II, CASE 3; DATE, 1928: Two-story brick mercantile building. Fire had involved central part of first floor. Siren at city hall was blown. Model T Ford hose truck laid hydrant line of 2½-inch hose with controlling nozzle. This was taken into front door of building with line charged. Building was opened at rear. Pipemen waited until smoke partially cleared and they could see the fire before opening nozzle. Fire was quickly knocked down and then finished and overhauled by leader line of 1½-inch hose. An interesting phase of this fire was the skillful operation of the stream to prevent water damage, which was not very great.

GROUP II, CASE 4; DATE, 1938: Two-story brick mercantile building. Fire had involved central area of first floor. Fire siren was blown. Model A Ford hose truck laid 2½-inch hydrant line, which was branched into two lines of 1½-inch hose with fog nozzles. These were taken into front door as rear door was opened. One nozzle operated a fog stream that quickly drove the smoke and heat to and out of the rear of the building while the other nozzle was adjusted to throw a straight stream. The fire was quickly reached and gotten under control without extensive water damage. This was an example of entering and advancing behind a fog screen that swept the smoke away from the pipemen.

GROUP III, CASE 1; DATE, 1898: Brick, one story cotton warehouse. About thirty bales of cotton well inside building were at first involved by fire. Four lines of 2½-inch hose were laid from two nearby hydrants by horse drawn hose wagon. The total amount of water available from the waterworks system was not more than four hundred gallons per minute, and the streams from this through four open 1⅛-inch nozzles could not reach the fire. Before this situation was appreciated, and two of the lines had been cut off, the fire got away and the cotton bales in the building were practically a total loss. The chief of the department was at home at the time, recovering from a severe injury received at a previous fire. It is very likely that he, if he had been present, would not have made the error in trying to operate too many streams from the water supply.

GROUP III, CASE 2; DATE, 1921: Brick, one story cotton warehouse. About thirty bales of cotton inside the building were involved by fire. Siren was blown and a hydrant line of 2½-inch hose with a controlling nozzle was laid by Model T Ford hose truck. Building was very heavily charged with smoke. It was very expertly vented by removing frames of four skylights on the roof. The smoke lifted like a theatre curtain going up, and the hose line was taken into the building and the fire was soon gotten under control. Bales involved were then trucked out into the street by hand and overhauled by men who used buckets of water.

GROUP III, CASE 3; DATE, 1950: Brick, one story cotton warehouse. A number of bales in building were involved by fire. Five hundred gallon pumper began pumping two streams of "wet" water through 1-inch booster lines, using one fog nozzle and one controlling nozzle. Fog drove smoke ahead of pipemen and fire was quickly reached and extinguished with less than five hundred gallons of the "wet" water. One remarkable fact was that fires in the bales was completely put out by the water penetrating them and no overhauling was necessary after they were trucked out of building.

These cases have seemed to the writer to be interesting in that they present a picture of the development of fire fighting methods in the same little town over a period of sixty-five years.

We first find the bucket brigade and the hand pumper, then the horse drawn hose wagon, the Model T Ford truck (on which 1250 feet of hose were carried), the Model A Ford hose truck, and finally the five hundred-gallon pumper, which had a five hundred-gallon water tank as well as carrying 1200 feet of hose.

The element of training and expertness in operating the equipment seems to have been at a high standard in this little department ever since it was organized in 1885. The first chief who was a fine leader of men, established a high degree of training that has never

University of Michigan News Service

Action at 23rd Annual Michigan Fire College

Rescue of an "injured" person from an upper story of a building was one of the out-of-door evolutions at the 23rd annual Michigan Fire College conducted at the University of Michigan, Ann Arbor, in June. The stretcher case is Fireman Gale Jones of the Benton Harbor Fire Department. Standing, at foot of ladder, manning rope, are Forest Hess of Company 4, and Howard Hazebrook of Company 3, Wyoming Township (near Grand Rapids) Volunteer Fire Department. Nearly 350 firemen from municipal, volunteer and industrial Michigan fire departments attended the four-day college covering fire prevention, control and extinguishment.

been exceeded by any following generation.

This department seems to have practiced ventilation since it first began to operate. It began using leader lines of 1½-inch hose in 1922, fog nozzles in 1938 and "wet" water in 1949. Salvage covers were used as far back as 1925 and a drill school, modelled after the New York fire college, on a simpler scale, was begun in that year. Carbon dioxide equipment, also has been used for several years.

A waterworks system, with supply from high revervoirs on a mountain, has helped very much to make fire losses low in this small town, the static pressure in some parts of this community being as high as one hundred and forty pounds. The working pressure, of course, has always depended upon the size of the mains and the amount of water used, but has generally given very good hydrant streams.

The main lesson to be found, perhaps, in all the above is that the principles and standards of the science of the extinguishment of fire, which have been developed during many years by men who have been the masters of their profession, may be adapted and applied to great advantage in the operation of the smallest village brigade.

Fire equipment is only as good as the men that use it, in the same way that it used to be said, in the navy, that "Iron men in wooden ships can always defeat wooden men in iron ships."

VOLUNTEERS OPERATE DEPARTMENT ON HIGHLY EFFICIENT BASIS

Proud of Record in Protecting Thibodaux, La.; Run Entirely Independent of City

THIBODAUX, LA., boasts an all-volunteer fire department, organized 115 years ago. The City itself has no fire department, according to Clarence J. Riviere, Director of Training; the department is independent of the City and is composed of five different companies, each an independent organization. The five companies comprise the "department," which is operated under the guidance of a Fire Board, composed of two members from each of the five companies. The several companies select their own officers, but the fire chiefs and assistant chiefs are elected by the department as a whole.

In addition to these ten individuals, the Fire Board includes the Mayor of Thibodaux as an ex-officio member, representing the City.

Each company, with one exception, has a membership of approximately 60 members; the exception being a new company which has a membership of over 100 volunteers.

Thibodaux Fire Co. 1 operates a 600 GPM pumper bought in 1946. Protector Fire Co. No. 2 operates a 600 GPM 3-stage high-pressure unit, purchased in 1949; Vigilant Chemical & Hose Co. has a 600 GPM pumper added in 1948; Home Hook & Ladder Co. No. 1 has two units, a city service truck and Emergency Unit No. 1 and momentarily expects a new piece of apparatus, equipped with all accessories, including flood lights. North Thibodaux Fire Co. No. 1, lists a 500 GPM pumper. New units for this company and for the Hook & Ladder Co. are expected to be purchased shortly.

The department is housed in five stations, located in different parts of the city. No one is in constant attendance at the stations nor are there any paid drivers. All personnel are volunteers.

Alarms are received either by Gamewell system or by telephone. A new Gamewell system of the latest type is being installed. The central alarm station is located in the radio room of the Parish Sheriff's office.

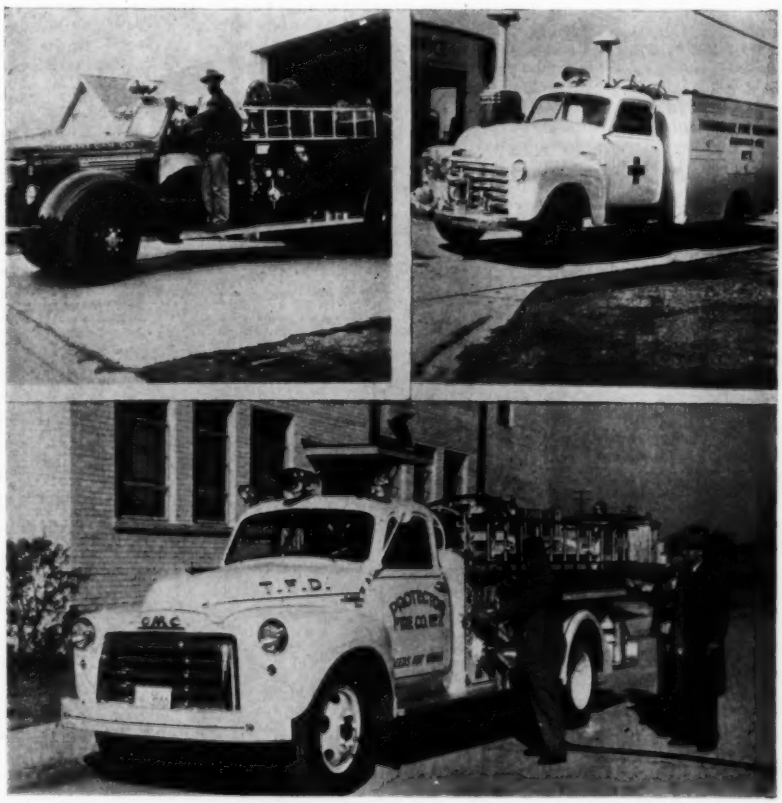
The department is financed through the medium of a 2 mill donation from the city, the money coming from the proceeds of a 5 mill improvement tax for the municipality; also from the proceeds of an insurance return to the community, which amounts to about $1500 annually. About $7000 is raised through the 2 mills. The balance of the money necessary to purchase new equipment is raised by the department itself, through its Annual Fair. A donation of $500 is received from the Parish Police Jury, in repayment for which the department answers calls outside of the city limits for the Parish.

Each year the department conducts a special training school for its members. Continual training is also maintained by the companies. All of the engine companies conduct regular pumper drills; each operator of a pumper must be qualified by his company training officer, after which he must pass a test set by the fire department and conducted by the director of training before he can be certified as a pump operator and receive his card as such. Each member of the department, too, must attend a minimum number of hours of training in the department before he is entitled to his school card. Several members of the department are sent each year to the Louisiana State Firemen's School held at Baton Rouge, La.

It is the practice to dispatch one engine company on every rural alarm, followed by additional apparatus if required. In the city, three engine companies and one emergency unit are dispatched on every alarm. The Hook & Ladder Company's apparatus responds to calls from the mercantile and other high value districts and to special hazards.

There is at present no manpower

(*Continued on Page* 704)



Three Units of the Thibodaux, La., Volunteer Fire Department

Upper left: 600 g.p.m. pumper of Vigilant Chemical and Hose Company. Upper right: Emergency unit equipped with 400 g.p.m. front mount pump, salvage equipment, portable "lung," flood lights, etc. Lower: 600 g.p.m. pumper of Protector Fire Co. No. 2. Members of department shown are (left to right) E. W. Naguin, Fire Board Member; C. J. Riviere, Director of Training, and M. G. Riviere, Honorary Chief.

A Little House by the Side of the Road

It was just a little house by the side of the road, in the Chickahominy section of Greenwich, Conn., but it was the happy abiding place of Mr. and Mrs. Samuel Wiggins, and their five children, ranging all the way from little Clare Louise, aged 4 to Richard, aged 13. That is, it was—until—

Father Wiggins, who worked in a Bridgeport factory had to get an early start. Usually he would arise about 4:30 A.M., get the coffee pot on a heater in the living room, or the kitchen stove, while he got ready for work. As is so common with cottages of the type in the same area (and elsewhere), kerosene was relied upon for cooking and heating. The Wiggins family boasted one of the larger "space heaters" for their living room, so convenient to "take the chill off the frosty air."

On a fateful morning, Papa Wiggins arose at his customary hour, put a pot of coffee on the heater in the living room, and then went out to a kerosene tank in the back yard to get fuel for the kitchen stove. He returned to find that the living room heater had flared up.

From then on it was all a crazy nightmare to Mr. Wiggins. A nightmare combined of efforts to drag the flaring heater out of doors; of the dropping off of the heater's storage tank on the way, to spill kerosene on the floor; of the furious flare up of flames in the entranceway, barring his return to the house; of the panic that suddenly enveloped the household—along with the flames; of Mrs. Wiggins's frantic call to the Greenwich Fire Department—her last living act; of the searing heat that burned Mr. Wiggins as he tried desperately to reach his children. And finally, the awful moment when the sickened fire fighters and police broke the news to him that his wife, and three of his children—all his girls, Valeria, age 11, Barbara Ann, 10 and Clare Louise, were dead.

The two boys, asleep in separate rooms, reached safety, one by the back, one by the front. The mother was found in the bedroom with the bodies of her daughters where she had rushed in the last desperate effort to save them.

Forty volunteer and paid members of the Greenwich Fire Department, responding to the alarm received at 5:11 A.M., quickly extinguished the fire but, even before that had forced their way in and brought out the victims and set to work with resuscitators and inhalators. Their long struggle to revive however was fruitless.

Another heating season is approaching. All over America, thousands of little homes "by the side of the road" will be using portable and other type heaters which rely on kerosene or other flammable fluids. The tragedy of the Wiggins will be reenacted, many, many times over—unless—

It is to provide the answer to that "unless" that fire chiefs are combining in the nationwide campaign to "save the lives of 4000 children this year!"—R. B. W.

Idaho fire fighters attending annual school.

Idaho Firemen Meet

The Idaho annual fire school was held at Boise on June 14, 15 and 16. Approximately 150 fire fighters were in attendance.

William Galloway, director of Boise civil defense, spoke on the civil defense program.

A first aid demonstration was given by the Boise fire department followed by a talk on "Fire Prevention" by Jay W. Stevens, National Board of Fire Underwriters, San Francisco.

The Boise police department ran a film on civil defense and the atom bomb and Pat King of the Idaho Surveying and Rating bureau addressed the group on fire inspections in hospitals, maternity homes and homes for the aged.

The afternoon session included a demonstration on ladder practices by the Boise fire department at the drill tower; salvage and clean-up, by the department, and Howard M. Cullimore, Snake River Mutual Fire Insurance company, Idaho Falls, discussed volunteer fire departments.

A demonstration on gasoline, liquefied gas and all inflammable liquids was given by Oliver Johnson, fire prevention engineer of Standard Oil company, and a liquefied gas fire demonstration by Liquefied Gas corporation of Boise and the fire department.

The program included a talk by Sandor S. Klein on public relations pertaining to the fire departments, and purpose of teacher's training for firemen by Sam Glenn of the State Board of Vocational Education.

Klein urged cooperation with the press in making facts known concerning fire, fire prevention and infractions of fire regulations. The best sort of public relations is in having an efficient department, he said. He suggested the setting up of an award system for firemen in each city whereby each year firemen would be given an award for bravery or meritorious service.

Demonstrations by rural volunteer fire departments were given and the Boise fire department demonstrated ventilation practices.

Four died in this little house "by the side of the road"

A monther and three daughters, trapped by fire which originated in an oil heater perished in this Greenwich, Conn., cottage. It is to prevent reenactment of this tragedy in the coming heating season that the nation's fire chiefs are driving for greater fire safety in the home.

"Business" on Increase in Springfield, O.

The annual report for the year 1950 of the Springfield, O., Fire Department, Chief Grover Frock, discloses that alarms of all types jumped from 1,247 in 1949 to 1,715 in 1950. Fire losses amounted to $208,391.39 the latter year.

Chief Frock's report is one of the few of cities which includes such pertinent data as the number of miles traveled by all fire apparatus (in Springfield, 6,349.8 miles in 1950).

Among the recommended improvements are a new and better fire alarm system in a new fire resistant building, separation of fire and police radio systems, more fire alarm boxes, material alterations and repairs to fire alarm stations and increase in department personnel as well as replacement of outmoded equipment.

Manufacturers' Announcements

College Boys Take Course in Fire Extinguishing

Prof. John J. Ahern, director of Illinois Institute of Technology's fire protection and safety engineering department, recently arranged to take his senior fire protection engineering class to a place where its 28 members could fight fires to their hearts' content. The place was the large fire test grounds of Ansul Chemical Co., Marinette, Wis.

During two days in Marinette, the 28 senior students got their first opportunity to wade into every type of fire with every type of equipment.

Since most of the students had already lined up jobs involving industrial fire protection, emphasis was placed on industrial fires. The I.I.T. men, with Ansul test field technicians at their elbows, first worked with hand extinguishers on small fires. As they gained operating familiarity with dry chemical, carbon dioxide, vaporizing liquid, foam and water spray equipment, their ability to fight fires rapidly increased.

From hand equipment the students progressed to larger, wheeled extinguishers, and to larger fires.

A typical big blaze was a 300 sq. ft. pit filled with 400 gal. of fuel oil. The young engineers tried three different pieces of equipment on this fire: 350-lb. dry chemical unit; water spray 1½ in. nozzle without applicator, hydrant pressure; mechanical foam 1½ in., hydrant pressure.

Other spectacular fires included vertical and horizontal propane jets, overhead flange leaking gasoline and a gasoline jet. Fuel pressure ran about 80 lb.

Not all of the fires were extinguished by I.I.T. men. In one case a student "missed" with a hand extinguisher, ran back for a different type and knocked out the fire. In other cases, Ansul technicians took over with standby equipment when the students' supply of extinguishing material was exhausted.

The two days' training had its element of danger, too. One engineer-student, caught by an unexpected "flashback" of flame, dropped to the ground, and to safety. Shrugging off a small radiant heat burn, he eagerly returned to the fire-fighting.

This enthusiasm was equaled by the other members of the class. An Ansul technician commented: "First fire school I've ever seen where we didn't have to coax the students. Why, these fellows got in line to fight fires.

Climax of the field trip came at the end of the class' intensive training. Harley G. Hastert, general manager of Ansul's fire extinguisher division, gave each man a small extinguisher (a gift from the company) and a special diploma —— ". . . for having survived the rigors, tortures and indignities of the fire school."

Quaker Corp. Opens New Branch Warehouse in Detroit

To better serve the Detroit industrial area, Quaker Rubber Corporation, Division of H. K. Porter Company, Inc., Philadelphia, has opened a stock-carrying branch warehouse and sales office at 872 W. Milwaukee Avenue, Detroit, Michigan, it was announced by J. R. Keach, Vice President and General Manager.

The establishment of this warehouse is the latest step in Quaker's stated policy of expanding its distribution facilities to all important industrial areas to provide them with prompt service and a complete line of industrial rubber products including automotive rubber products, rubber conveyor and transmission belting, V-belts, hose, packing and moulded rubber products.

J. R. Alexander has been appointed District Manager of the new branch which will serve all of Michigan.

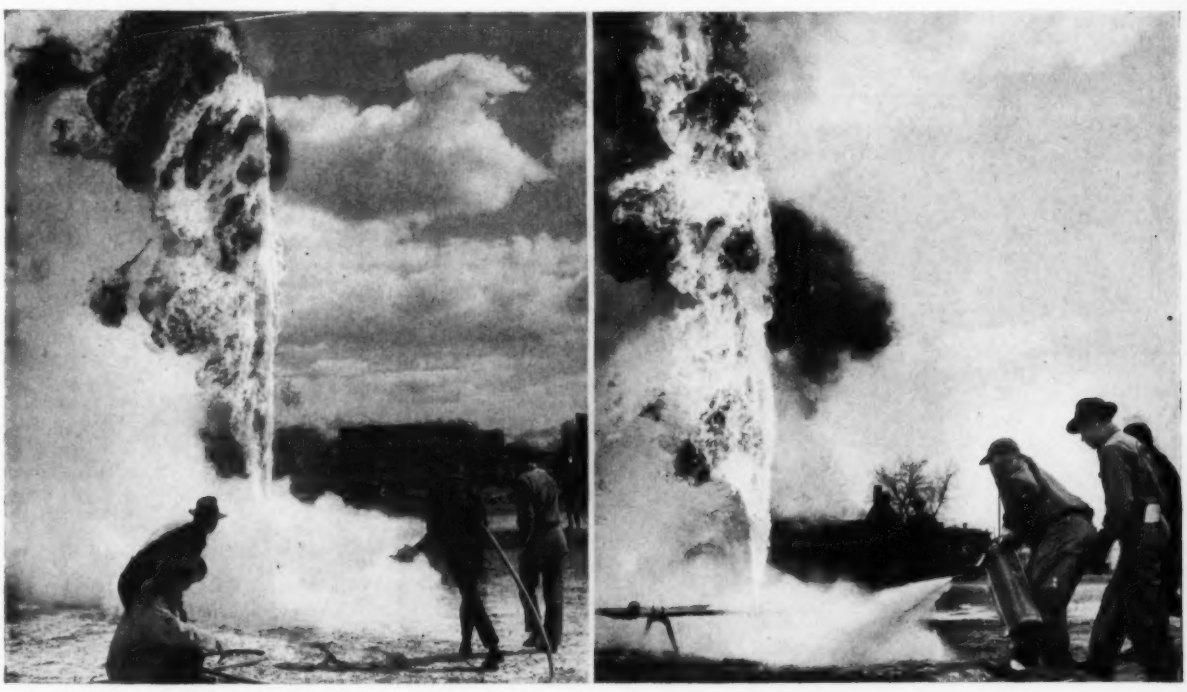
New Blackinton Catalog

V. H. Blackinton & Co., Inc., Attleboro Falls, Mass., have just issued an attractive twenty-five page catalog showing their complete line of police and fire badges. Two self-mailing folders, one for police badges and the other for fire badges, have also been issued. The company's practice has been to imprint dealers' names and addresses on the mailing side of both of these folders and furnish the folders in quantities for dealers' use.

E. J. Dinkel Secretary of Mack Trucks, Inc.

Election of E. J. Dinkel as secretary of Mack Trucks, Inc., has been announced by E. D. Bransome, president and chairman of the board. Mr. Dinkel, who attended Rutgers and was graduated from St. Lawrence University with a bachelor of law degree, is a member of the bar in both New York State and New Jersey.

Prior to joining Mack in 1946 as industrial relations director at the Company's New Brunswick, N. J., plant, he practiced law and taught at Rutgers, where he is still a member of the fac-



Left: Deft maneuvering by I. I. T. student, wielding 350 pounds dry chemical extinguisher, knocks out spectacular propane jet fire. Right: Liquid propane under pressure escapes from flange opening. Student aims stream of 30 pound dry chemical extinguisher at base of flame, follows fire up for complete extinguishment.

ulty. Named field personnel manager in 1949, Mr. Dinkel moved to the Company's home office, Empire State Building, New York City, where he will continue to make his headquarters. In addition to his new duties, he will remain active in labor relations.

Dehnel Joins Preakness

G. N. Tyack, Sales Manager of Preakness Engineering Co., 72 Broad Street, Newark 2, N. J., has announced that effective July 1, 1951, A. C. Dehnel joined his company and assumed the responsibilities of Export Manager. Mr. Dehnel has been associated with Walter Kidde & Co., Inc. for 25 years in the sale of that company's various fire fighting products to the industrial, aviation and marine trades, both domestic and overseas and thus brings to Preakness a well rounded knowledge of fire fighting.

Because of the increased interest in civil defense, Mr. Dehnel will devote considerable time to collaborating with Federal and State Civil Defense authorities, who have expressed considerable interest in Preakness apparatus. Preakness manufactures various types of fire fighting trailers for municipal, industrial, airport and forestry use.

Young Corp. Expands

Young Fire Equipment Corp. of 1546-48 Williams Street, Buffalo 6, N. Y., have recently enlarged their plant. A new building 50 x 120 of fireproof construction, with adjacent parking lot 50 x 120 has been added to meet the needs of their expanding business.

The new building will house the general offices, warehousing, shipping and receiving departments. It will also house Buffalo Fire Appliance Corp. trucks together with jigs, fixtures and spare parts for servicing "Buffalo Built" trucks. The old plant will be for manufacturing exclusively, with room for expansion. The new plant doubles the floor space and will facilitate the manufacture and servicing of fire apparatus and equipment.

Young Fire Equipment Corporation plant. Recent completed addition is at right.

Philadelphia Dedicates Communications Center

One of the nation's most modern police, fire and civil defense communications centers, built around a two-way mobile communications system designed and installed by the Radio Corporation of America, was officially dedicated on July 11, with ceremonies conducted by Mayor Bernard Samuel, Public Safety Director Samuel H. Rosenberg, Civil Defense Director Norman D. Cota, and other top city officials.

The new installation, which is the second complete communications center opened by the city this year, will serve as an auxiliary radio station for the control of the city's motorized police and fire equipment, and as a control center during Civil Defense and general emergencies, according to Edgar P. Grim, Chief of the Electrical Bureau of the City of Philadelphia.

Both stations, operating under the call letters KGB-476 in the 150-174 megacycle band, were equipped under plans approved last October by the City Council of Philadelphia. They feature duplicate transmitting and receiving equipment which can be operated from either or both stations by means of special remote switching controls.

The first station, dedicated in February, is located in the Electrical Bureau's communications headquarters in City Hall. Its antenna is perched atop the William Penn statue, famous landmark which crowns the City Hall tower, 500 feet above street level. The new station is located in West Philadelphia, approximately four miles from the heart of the city. In addition to serving as the city's auxiliary radio station, the new installation will also be the repair and maintenance headquarters for the city's motorized communications equipment.

The new station has four 250-watt transmitters (two each for police and fire channels), eight station receivers, and two custom-built consoles. Features of the transmitting equipment include elaborate glass-door cabinets. By means of this station equipment, either or both of the stations can maintain continuous contact with the city mobile communications equipment.

Under the contract, 150 Carfone 30-watt high-frequency FM transmitter and receiver units have also been installed in fire and police vehicles.

The new West Philadelphia communications center is housed in a modern one-story brick-and-steel building which features glass-enclosed operation booths, electrically controlled doors, and soundproof walls. Rising alongside the building is a 250-foot antenna tower.

Typical of the station's completeness and advanced facilities is a giant control map which offers at-a-glance information regarding the movement of police, fire, and emergency vehicles. Mounted outside the dispatcher's glass-enclosed control room, the board has six hundred lights which will indicate which vehicles are in use and which are standing by at the various vehicle depots. This instantaneous, visual information will provide the dispatcher with tighter control over the city's mobile equipment in the event of enemy air attacks or general emergencies.

The overall Philadelphia communications system will be under the direction of Frank O. Schierff, Superintendent of Fire Alarm and Radio Systems of the Philadelphia Electrical Bureau. The West Philadelphia station will be directed by Anthony Repice.

(*Continued on page* 696)

Two-way mobile communications equipment provides a constant communications link between vehicles such as this and Philadelphia's new police, fire, and civil defense communications center, which was officially dedicated on July 11. Here, during a test demonstration, Captain William McGowan, of the Philadelphia Fire Department's Emergency Crew, reports to headquarters while Hoseman George Hink gets the fire truck ready for action.

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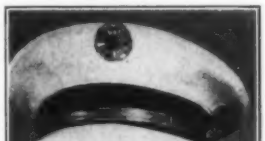

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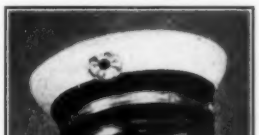

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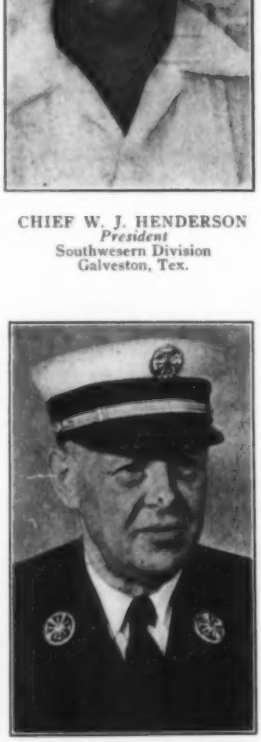

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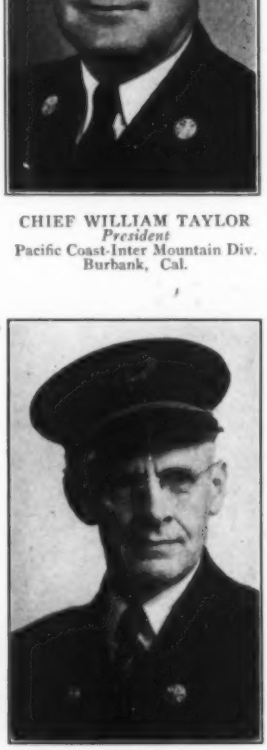

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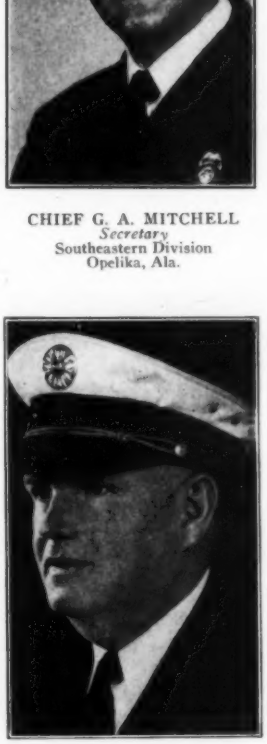

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Baltimore's Box 412 Sets Refreshment Record

Everything was quiet on Tuesday afternoon, January 16th, in the headquarters of Baltimore's fire "buff" club, the Box 414 Association, Inc. The four o'clock communication test was in progress, and the fire companies were reporting into Fire Headquarters in the usual numerical order. The test usually takes from four to five minutes for completion; however, at three minutes after four the test was interrupted in order to announce an alarm of fire, Box 10-4-2, the Hawkins Point Ammunition pier—the very rim of the Baltimore City limits. The stage was set for what proved to be one of the worst fires that city has seen since the conflagration of 1904. Tense moments were experienced by the man on watch in the Association Headquarters. Sixteen long minutes elapsed before the third alarm on Box 10-4-2 was transmitted.*

Immediately there was action. Water, which is kept at 180 degrees at all times, was dispensed into two new ten-gallon coffee making urns. By prearrangement, sandwich materials were picked up by specified members and brought to 414 Headquarters. All the other members were being notified by telephone. Coffee was added to the boiling water; sandwiches were made, wrapped, and boxed. Sugar, cream, paper cups and all the other necessities usually carried by members of the coffee service, were added too, because the extra alarms quickly sounded indicated trouble.

Before long, the fire had reached six alarm proportions. At 5:29 a second alarm was transmitted from Box 10-4-1-4, an adjacent box. This brought the total alarms sounded to eight.

Action was fast and furious at Box 414 Headquarters, 530 N. Calvert Street. Steaming hot coffee was dispensed into three five-gallon insulated jugs and several smaller ones. Boxes of sandwiches, coffee jugs, cream and sugar were loaded into members' cars and refreshments were soon on the way to stimulate the cold, wet firefighters.

Several difficulties were experienced by the canteen service. The fire department had transmitted a special order that made the day shift hold fast. To the "Buff" club members serving coffee, this meant that twice the number of firefighters had to be served, inasmuch as the night shift of firefighters had been transported to the fireground. Minutes prior to the arrival of the first coffee detail, a fourth alarm was sounded on Box 10-4-1-4, bringing the total to ten alarms transmitted.

Sandwiches Get Short Shift

The famished day shift made short work of the sandwiches, and not long afterward the coffee supply began to dwindle. To supplement the hot coffee, packages of powdered chocolate were carried by the "Buffs" who obtained hot water which was added to the chocolate to provide warming stimulants.

Meanwhile back at the Calvert Street Headquarters, more "414" members were arriving to replace those needed on the fireground. Still more coffee was brewed and more sandwiches made. The problem of quantity lessened, but another took its place. The fireground was ten miles distant from the "414'ers" Headquarters. This meant a round trip of twenty miles. To overcome this obstacle more cars and willing hands were pressed into service.

As the fire reached its height, cars continuously shuttled between the fireground and the Buffs' headquarters. Returning empty jugs were immediately refilled and sped back to the busy scene, together with fresh supplies of sandwiches. Sweet buns were added to the staggering amount of coffee and sandwiches of the "emergency menu." Still the fire progressed.

Meanwhile the "414" coffee detail continued service. The figures rose—twenty gallons of coffee, to thirty-forty—two hundred sandwiches became 400, 500. Twenty dozen buns were soon forty! Up went the figures until midnight, when the demands diminished; nevertheless the supplies was continually replenished.

This is part of the story of the service rendered by these friends of the fire service. And little did they think they would establish records for the amount and duration of service rendered to their fire fighting forces when they swung into action on that well-remembered January 16. But they did set up records!

Long after the excitement had subsided, and the curiosity seekers had left and newspaper photographers and reporters had diminished to a scant few, "414's" services continued. As a matter of record these services continued until the following Sunday, January 21st, when the fire boat Cascade, and the Marine Battalion Chief—the last companies to leave the now wrecked pier, went back into service.

It was not until thirteen hours after the initial alarm was sounded that there was quiet on the fire front and the weary association members replenished the final supply for the night and headed homeward for much needed rest. Many of the units had only two or three hours of sleep when they resumed their own normal occupations. Wednesday found the "414'ers" tired but proud of a job well done.

Served Through Wednesday

Their services continued through Wednesday, when fresh coffee and sandwiches were several times taken to the scene of the fire. By that evening the operating force had dwindled to little more than a three alarm assignment. Most of the equipment was soon returned to quarters, leaving only a detail of firemen selected from different stations. However, with the dawn, Thursday came the ever welcome coffee detail.

Thursday, Friday, Saturday, and even on Sunday, the tired but inspired personnel of the "414'ers" returned time and again to their self-appointed duties. And as each automobile load of much needed supplies was sped to the isolated expectant firefighters, it was greeted with enthusiasm.

(*Continued on page 703*)

*The detailed report of this fire was published in the February, 1951, issue of this Journal.

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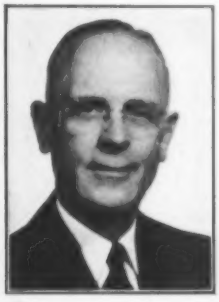

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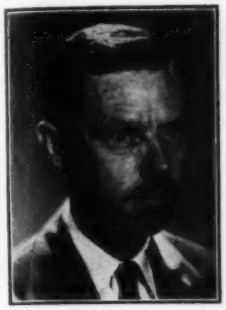

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Forest Fire Losses Reduced in Connecticut

Connecticut in 1950 had one of the best years in the state's history from the viewpoint of keeping down losses from forest fires, according to a summary made public by W. F. Schreeder, Connecticut's State Forester and Chief Fire Warden.

During 1950 there were 572 forest fires in Connecticut against a 15-year average of 1,187. Not only was the number of fires kept down, but the average loss per fire was held to 3.4 acres, one of the lowest in the history of the state, and in 1950, one of the lowest in the whole United States.

Credit for holding down the number of fires and reducing the loss in acres per fire is given by Fire Warden Schreeder to a number of factors, including the general improvement of the fire warden service, the equipment of radio fire towers and a general program of education in fire prevention and fire fighting methods, including intensive radio programs in the spring in which fire weather broadcasts are given at regular intervals.

"The spring of 1950 was filled with many days of potential disaster," Mr. Schreeder said in his report, "since there were more high and extreme hazard days than in any other spring of which we have record. In spite of this the number of fires was held way below the 15-year average during the three hazardous spring months of March, April and May."

Progress in fire fighting methods and warden service is indicated by the reduction in acres burned per fire. For comparison, Mr. Schreeder points to the fact that in the three-year period 1926-27-28 there were 1,768 fires burning 42,900 acres while in the comparable three-year period, which ended January 1 of this year, there were 1,704 fires burning 4,952 acres, or hardly more than one-tenth of the loss per fire recorded in the earlier three-year period.

The January issue of Fire Control Notes published by the United States Forestry Service says that Connecticut's fine record was no accident. The bulletin says:

"A notable decrease in fire occurrence ratio took place in Connecticut. This outstanding record is closely followed by that of Maryland and the Monongahelia National Forest, in that order.

"In Connecticut the ratio of actual or expected number of fires decreased steadily year by year from 1943 through 1949. The decreases have been so uniform and so sustained that they are almost certainly the result of a planned program—the odds being about 200 to 1 that this did not happen by chance.

"Had the downward trend been caused by a smaller number of fire-starting agents each year, the result would not have been so uniform. At any rate, there is no evidence to indicate that the number of picnickers, hunters and debris burners decreased in Connecticut, while they increased in nearby states. Fire prevention methods apparently are responsible for changing the habits of the persons who have been causing the fires."

TOM MAGNER

Value of Helicopters in Forest Fire Fighting Questioned

Helicopters, which have received considerable publicity as a forest fire fighting facility, may be a "fire fighter's dream" but for the present the wingless aircraft are too expensive and have too many technical "bugs" for general use by the U. S. Forest Service, it was reported by Region 1 Headquarters, Missoula, Montana.

According to C. E. Hardy, forester in that division, experiments with helicopters are continuing, but a lot of development is still needed. The machine has some advantages, notably in rescue work, he thinks, but experiments over the past year leave most officials skeptical.

The main reason against general use of helicopters to fight such fires is the high cost of operation and maintenance. The present 2-seater helicopter is not practical to work on a large scale for smoke-chasing. The service indicates considerable improvements are needed in the nature of "heliports" to equal travel time now possible by the use of smoke jumpers. It says that until technical improvements make it possible to hover at tree top height around the 6,000-foot elevation, the machine's general use will be restricted to areas having

(*Continued on page* 705)

When it's a rough one...

Rough jobs call for tough men and tough equipment. Hose must have maximum pressure at the nozzle, must not writhe or serpentine. Such a hose is Eureka. Compare these four advantages—

BALANCED-WEAVE CONSTRUCTION, in both multiple-woven and double-jacket hose, eliminates dangerous writhing and twisting under high pressures.

SMOOTH-INTERIOR FILLER PLY prevents "washboarding" of rubber lining, reduces friction loss so that you get better nozzle pressure without increase in pump pressure.

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BOMB-TESTED RUBBER LINING to guarantee longer wear.

"For greater protection to life and property"

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Division of United States Rubber Company

Rockefeller Center Sets Up C.D. Organization

Rockefeller Center, which might form a bull's eye on Manhattan Island for enemy A-bombs because of its concentrated 15 modern skyscrapers of various sizes and shapes, is girding itself for any emergency.

After months of study, organization and training, the Center recently conducted its first of a series of air raid tests, planned as a means of studying the efficiency of personnel and equipment under simulated air raid conditions. The test brought into action a representative portion of the Center's defense plan.

The total organization includes more than 1000 volunteers, and utilizes a wide variety of special equipment, including the use of Motorola F.M. 2-way "Handie-Talkie" portable radiophones and Pack Sets which the Center recently purchased to permit quick contact between points anywhere on the 12 acre development.

Plans call for distribution of the sets throughout the various buildings, with a dispatcher central station located in the existing Protection Department's Control Room on the second floor of the RCA Building. The Control room will serve as the zone wardens' headquarters and as a clearing point for all civilian defense instructions throughout the Center's 15 buildings.

The recent test marked the first application of a comprehensive civilian defense program which was instituted last August with the formation of a 6-man civilian defense committee for Rockefeller Center.

Since that time intensive studies have been made by the committee, working through local and state civilian defense authorities, to consider probable effects on the Center by the New York air attack. A resultant series of recommendations covering organizational, medical, communications and training procedures have provided the basis for the Center's civilian defense program.

Houston Department Uses Gas Detectors to Check Fires

Preventing fires and explosions in rapidly growing industrial city like Houston is a big job and the *Fire Prevention Bureau* tackles it with earnestness, hard work, and gas detecting devices.

Typical household appliance connection inspection by Houston Fire Department.

Explosions or fires in at least 10 buildings have been prevented by this special instrument in the past year according to Fire Marshal, P. W. Clooney, who states that "During the year 1950, this office has received eighty-three calls from various citizens who have had suspicions of gas leaks in their homes as well as business places. Upon investigation we have found gas leaks in such appliances as hot water heaters, thermostats, riser valves on gas lines, floor furnaces and heating units, as well as sewer gas from sanitary facilities. Out of this figure it can be said that at least ten of these gas leaks found, if allowed to continue, would have resulted in serious gas explosions with heavy damages to property and possible loss of life. This office has on record two serious explosions, both caused by leaking gas, the result being one building damaged to the extent of approximately $80,000. Luckily no one was killed or seriously injured in either."

The chief also pointed out that other places could probably have been saved from damage had the public called the fire department at the first intimation of explosive gases. More and more, however, the public is cooperating and discovering fire and explosion hazards. Thus, inspection of possible dangerous areas is becoming routine in Houston. This type of detection was demonstrated at a recent safety school at Texas A&M.

Inspector R. L. McNalley shown using the gas detector to locate a dangerous gas leak.

When escaping gas is reported to the fire department, a gas detector is taken out and the operator probes the area. The device instantaneously records the explosive possibilities of the gas on a simple meter; even slight traces will be recorded. It can be used for detection of natural gas, gasoline, propane, butane, benzine, ether and other explosive gases. Immediate steps can be taken to prevent fire and explosion when dangerous quantities are present.

In industrial areas where natural gas is used not only by householders, but in large quantities by plants, such protection is increasingly important.

The instrument used at Houston is manufactured by the Atlas Exploration Laboratories, Houston, Tex.

Nerve center of Rockefeller Center's civilian defense organization is this control board located on the second floor of the 70-story RCA Building. As the man at the left receives calls from the building wardens in each of the Center's structures, emergency instructions to specialized first aid and fire fighting squads are relayed over the dispatcher at the right.

Oregon Fire Marshal Report Comprehensive

Few states in this nation even attempt to gather and disseminate vital statistics on fires and fire losses. One outstanding exception is the State of Oregon, Robert B. Taylor, fire marshal. Its annual reports are masterly documents.

Not only does the report for the calendar year 1950 list the total fire fighting strength of the state, it recounts the fire department activities for the year, gives fire losses by occupational groups, etc., and analyzes the insured losses. It will be a great boon to the nation's fire service when all states compile and publish similar facts and figures.

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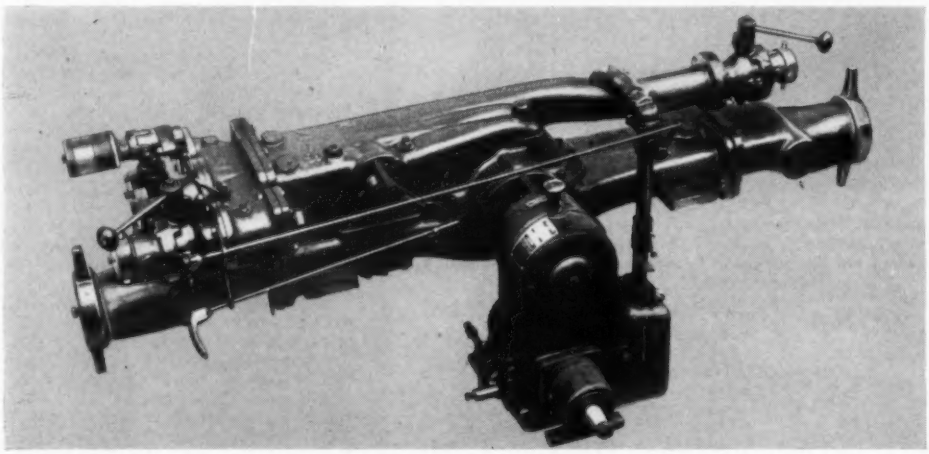
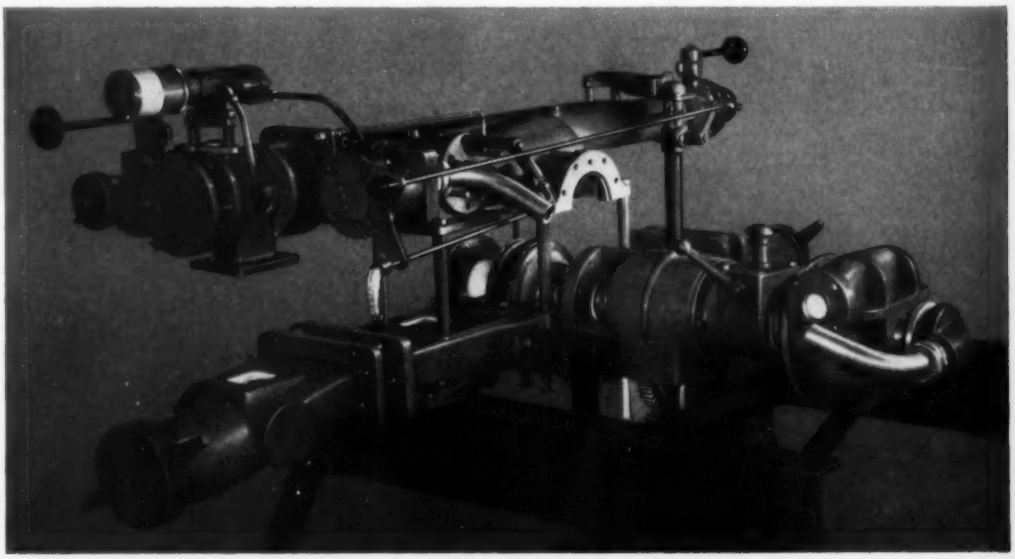


Above—Popular Hale Type ZL, 2-stage centrifugal from drive unit side, Underwriters' ratings 500 U.S.G.P.M. at 120 and 150 lbs. and 600 U.S.G.P.M. at 120 and 150 lbs.

HALE Fire Pumps are built in all standard capacities and range from the Centrifugal ZMHD 2-stage Series, Underwriters' rating 1500 U.S.G.P.M. at 120 lbs. and 150 lbs., down to Type GS Single Stage Centrifugal, Underwriters' ratings 500 and 600 U.S.G.P.M. at 120 and 150 lbs.; also rotary Booster Pumps Type HHB, H, and 2HB 100 to 200 U.S.G.P.M. at 100 to 200 lbs.



Above—Exploded view of HALE 3-stage High-Pressure centrifugal type HPZL. Underwriters' ratings 500 and 600 U.S.G.P.M. at 120 and 150 lbs. Also provides High Pressure Fog at 600 to 700 lbs., 60 to 120 U.S.G.P.M.

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New two-way fire radio system ties in Arlington County's eight stations and fire line fire apparatus. Shown above, Fire Chief A. C. Scheffel (standing) and J. H. Clements, drill instructor, making a test call using the new system at Company No. 4, North Hudson Street, Arlington, Va.

Arlington County, Va., Has Its Own Fire Radio

Arlington County, Va., located across the Potomac River from Washington, D. C., placed in operation its own complete two-way radio system on June 7, 1951. The set-up includes a headquarters radio station, mobile units and telephone switchboard.

The station is manned 24 hours a day, seven days a week, by fire department personnel. The two-way mobile units have been installed on the first line pieces of fire apparatus in the County's eight fire stations, plus the two chiefs' cars, making a total of thirteen two-way mobile units.

Under the present operation, both the fire and police department radio and telephone switchboards are manned independently of each other but have constant contact by both radio and direct line telephone.

The sets on the fire apparatus are 30 watts, the chiefs' cars are 60 watts, and the station itself is 150 watts, which is reported more than adequate for covering the Arlington County territory of approximately 24 square miles. It is anticipated that radio will be installed on the balance of the fire department equipment in the not too distant future.

According to Arlington's Fire Chief, A. C. Scheffel, during the short period of time the new system has been in operation it already has saved unnecessary mileage in the response of fire apparatus. Chief Scheffel contends that the improvement will offer greater efficiency in all-around communications for fire emergency within Arlington County and surrounding territory in both mutual aid and civil defense.

Vancouver Has New Fireboat

One of the most modern fireboats on the continent was approved for service in the protection of Vancouver, Canada, habour facilities in April, when the new "Fireboat No. 2" passed her underwriters' and Lloyds' tests at Yarrows Shipyards in Victoria, B.C.

Built by Yarrows, Ltd., to the specifications of the Vancouver Fire Department, the 180-ton vesel delivered 20,910 U.S. gallons per minute at 125 p.s.i. in a capacity test conducted by the British Columbia Underwriters' Association for the new owners; and, according to officials, "She could do better".

Underwriters' acceptance tests were conducted by D. J. Ford, Engineer of the British Columbia Underwriters' Association, assisted by J. N. Pryce and D. M. Baird, Engineers of the Dominion Board of Insurance Underwriters, who were engaged in a fire protection survey of Vancouver at the time. Others taking part included T. Venelle, master mechanic of the Vancouver Fire Department, and officials of Yarrows, Ltd.

The 87-foot steel boat is equipped with five 3000 imperial g.p.m. Paramount single stage centrifugal pumps, each driven by a 550 h.p. Kermath V-12 gasoline engine. Two of these engines are also used for propulsion through twin propellers. While in operation, the boat can be maneuvered by five underwater propulsion, jets supplied by the fire pump discharge main and operated electrically from the wheelhouse. On tests, maximum speed was 14 knots and the boat showed a high degree of maneuverability with her twin rudders and maneuvering jets.

Firefighting equipment includes three 3600 g.p.m. (U.S.) monitors mounted on the superstructure and a 2400 g.p.m. monitor on an aluminum tower, 36 feet above the water. There are 24 manifold outlets for 3-inch hose on deck. Two power operated hose reels carry 1000 feet of 3-inch and 1000 feet of 2½-inch hose.

Other equipment consists of 400 feet of 1½-inch hose, 600 pounds of carbon dioxide, in addition to the engine room flooding system, 300 pounds of dry chemical, two portable chemical foam generators and a deck-spray system to keep the boat cool.

"Fire-boat No. 2" is insulated throughout, carries daytime accommodation for her crew of six and is fitted with the latest navigational aids, including radar and radio telephone. Architects were Milne, Gilmore and German.

Following the tests, the boat was taken to Vancouver where her crew will be trained before she goes into service as Company 10 on the Burrard Inlet waterfront to protect some six miles of docks.

A smaller boat, the "J. H. Carlisle" has been in service for some years with the Vancouver department. A. R. Murray is Vancouver Fire Chief.

Kentucky Firemen to Meet

The Kentucky Firemen's Association will hold its annual Convention at Lexington, Kentucky on September 18th, 19th and 20th. Headquarters will be at the Layafette Hotel and all meetings will be held at the Hotel.

Those wishing to make reservations for rooms should contact Chief Earl R. McDaniels at the Central Fire Station, 3rd and Walnut Streets, Lexington, Kentucky.

Lt. H. G. Bogenschutz, 100 W. 6th St., Covington, Ky., is Secretary.

Photo Courtesy Dominion Board of Insurance Underwriters

Fire Boat No. 2 of the Vancouver Fire Department

ON THE JOB IN 1464 CITIES AND TOWNS

defying punishment . . . providing trouble-free fire protection

Quaker Fire Hose is the choice of municipal, industrial, and volunteer fire fighters all over the map. That's because:

- **IT'S STRONGER** . . . having extra tough jackets and specially compounded non-acid forming tubes that resist heat, abrasion, and abuse.
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Quaker's unique "easy-fold" construction allows up to one-third extra footage in trucks. Its lighter weight assures quick action when fast action is needed.

For greater security—greater economy—specify and insist on "QUAKER" Fire Hose. See your Quaker distributor, or write direct to us.

QUAKER RUBBER CORPORATION

DIVISION OF H. K. PORTER COMPANY, INC.

PHILADELPHIA 24, PENNA. BRANCHES IN PRINCIPAL CITIES

Trilby, Ohio, Boasts Progressive Volunteer Department

The Trilby, Ohio, Fire Department protects approximately eight square miles of Washington Township property in Lucas County, West Toledo. Like many other volunteer organizations, its first piece of mobile fire fighting equipment was a Model T Ford chemical truck. Like others, the founders of the Trilby department secured their equipment through public subscription.

The Model T is only a memory now, dimmed by the lustre of the smart new rigs that have succeeded it. These include three combination pumpers; a new emergency squad truck, and a chief's car. This array of apparatus is housed in an attractive two-story fire headquarters.

Perhaps there are other township fire departments that boast of equally handsome quarters and apparatus, but from there on the Trilby vamps are well up at the top of the heap.

The thirty-five man department isn't just paper personnel. They really work, when not having fires as well as when in service. Adjacent to the fire station is a 4-story drill tower, and it is used. In 1949 the department worked 107 hrs. and 53 min. at fires. But it put in 954 hours drilling, and 58 hrs. and 35 min. doing rescue work. Members must drill monthly, but that's not all. The work of the department includes much more than chasing to fires and accidents. The members boast an outstanding fire prevention and inspection program in the schools of the township, which includes five elementary and one high school with a total of 2754 students. The Committee on Fire Prevention and Inspection also periodically inspects industrial and other occupancies. Claimed to be the only program of its kind in Ohio Schools, the enterprise is somewhat similar to the modern progressive safety campaigns. After inspections, complete reports are filed by the department, copies being sent to the School Board, Industrial and Company officials, State Fire Marshal and others concerned. Home inspections by members of the department are invited.

Education of householders and farmers, in the area, on fire prevention and how to act in time of fire is carried on continually. A house-to-house canvas every October is made, and every family gets an instruction card that contains helpful information, and is at the same time good promotion for the Trilby F. D.

The department holds regular monthly meetings in the station's auditorium under the guidance of the President, Eugene Church, and departmental officers. Fire fighting is in charge of Chief Elden LaFollete. Monthly meetings for instruction of school students and others are held also at the station, transportation being furnished by the firemen. Attendance at these meetings averages 65 per session. There are five "captains" and 72 "fire patrol" members in the five schools. Duties of the patrol members are to make inspections with firemen, be responsible for roll call and fire drills and reporting to the school principal.

The volunteers are particularly fond of their squad car, which is equipped with mobile telephone, rescusitator, inhalator, oxygen supplies, smoke masks, acetylene cutting torch, portable light plant with flood and hand lights, hand tools, stretchers, first aid supplies, including burn kit, booster tank and pump.

All trucks of the department carry a street directory, which gives the location of any incident and accurately and quickly indicates the desirable routes to be taken. Many of the members have had training in Kent State and Ohio State Fire Schools. Thirty members carry advanced first aid cards.

The chief's car is equipped with mobile telephone, first aid supplies and emergency safety equipment together with portable fire extinguishers.

In 1949 the department answered 327 calls, 94 being for fires.

Top: Headquarters of the Trilby Fire Department. Bottom: Trilby's Emergency Squad Car.

Hopalong Cassidy Congratulates Chief Edward Grenfell

Hopalong Cassidy, radio and movie star, and the idol of millions of youngsters from coast to coast, is shown congratulating Chief Edward Grenfell, of Portland, Ore., on the outstanding program he has outlined for the Pacific Coast and Intermountain Fire Chiefs Association meeting at Portland. Hopalong recently attended the Portland Rose Festival and aided in the city's dwelling inspection which ended June 22nd. Every home in Portland was inspected in June for fire hazards.

Atom Bomb Radiation Hazards Discounted

The Joint U. S. Atomic Energy Commission and Department of Defense have released certain information concerning the 1951 Eniwetok tests conducted recently. Additional findings will be released later.

The data came at conferences held between representatives of the nation's press, and Gordon Dean, Chairman, U.S.A.E.C., Lieut. Gen. Elwood R. Quesade, Commander, Joint Task Force Three, and Dr. Alvin C. Graves, Chief, Weapons Test Division, Los Alamos Scientific Laboratory and other authorities.

The latest series of weapons tests at AEC's Eniwetok Proving Ground was reported highly successful. The tests, known as "Operations Greenhouse" were to try out new improved weapon designs (nature unreported); to conduct experiments contributing to research on thermonuclear weapons and to expand the knowledge of atomic blasts and direct effects of atomic weapons. Experimental programs covered included: Weapon performance and phenomenology; biomedical research; blast effects on structures; atomic cloud physics; radiac instrument evaluation; physical tests and measurements and blast effects on aircraft.

The weapon performance program measured the efficiency and yield of each detonation, nuclear reactions being

(*Continued on page* 700)

Now that you've put out the fire—what about putting out the Smoke Odor?

HOW many times have you successfully extinguished a small fire only to find it developing into a big loss because of smoke odor damage. Undoubtedly most fire-fighting personnel have experienced this frustrating situation.

Such frustration is no longer necessary. There is a proven technique for removing smoke odors. The Airkem Smoke Odor Service method is now available to you and the citizens of your community.

Airkem Smoke Odor Service is helping to save hundreds of thousands of dollars every year on merchandise and building fires as well as dwelling fires. Thousands of smoke odor jobs are successfully handled by the Airkem method in communities throughout the country.

With each Airkem Smoke Odor Service application you can be sure that there will be no more lingering smoke odors to annoy citizens in your community. You will no longer be faced with a record of huge paid claims for smoke odor damage to merchandise and dwellings.

KEEP PAID CLAIMS DOWN

IMPROVE PUBLIC RELATIONS FOR YOUR DEPARTMENT

Use the coupon below for an up-to-date list of Airkem Smoke Odor Service representatives and up-to-the-minute information on this valuable service.

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Gentlemen: Please send me your latest list of representatives and additional information about Airkem's Smoke Odor Service.

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Photo by Lee Pasternack

Richardson Mill Fire Shortly After Volunteers Got to Work.

Oil Mill Levelled by Fire

Fire fed by Diesel fuel oil and tons of dairy and poultry feeds destroyed the mill of Raymond B. Richardson & Sons with a loss of more than $100,000 on June 19.

Volunteer firemen from Allentown, and others called from four nearby towns, found smoke and flames rising 75 to 100 feet in the air when they arrived at 9 A.M. The three-story mill and attached storage sheds, machinery and supplies were consumed in the fire. Water was pumped by the volunteers from Anderson's Creek.

Richardson and his sons Harry and Elmer operate the mill. He announced the same day he will rebuild his business at a site where he can get rail service.

The mill is about 175 years old, owner Richardson estimates. It is built on 24-inch thick walls tapered to 16 inches at the top of the three-story structure. It was once used for spinning yarns. Richardson operated the business for 25 years without a fire loss.

A week before the fire, eight freight car loads of milling ingredients in sacks were stored in the building. The cargo was worth $30,000.

Novel C. D. Communications Center

A civil defense emergency communications network, believed to be the first of its kind in the nation, will be established in Onondaga County, New York. This was announced by Harvey S. Smith, County civil defense director, at a meeting June 12 of city and county officials at the General Electric Company's Electronics Park plant in Syracuse.

Engineers of the Company's Electronics Department, who have worked out the details with County authorities, said the new emergency system will establish a pattern for other communities.

The plan calls for the creation of a civil defense communications center to be located in a trailer which will be moved to safe areas if necessary in emergency periods such as bombing attacks. This mobile center will serve as the key station in a county-wide radio communications network made up of various public and private agencies involved in civil defense, many of which now operate their own two-way radio systems, according to Smith.

Radio equipment in the mobile center, and special receivers (called Civil Defenders) to be installed in these agencies, will provide the necessary communications facilities for their coordination. The center also will be tied into the telephone system and the amateur (ham) radio network.

The telephone system will serve as the primary means of civil defense communication, Smith said, particularly prior to a bombing attack. It is expected, however, that the telephone system will be seriously crippled by the attack, he said. The new radio system will supplement the telephone system as needed, principally following the attack when the telephone system may be largely inoperative, he explained.

The mobile center also will have "standby" radio transmitters and receivers which will enable authorities to operate, if necessary in CD emergencies, the radio communications systems of county and city departments, public utilities, and private companies now operating over 400 radio-equipped cars and trucks.

For example, if the police department's radio transmitter was sabotaged or damaged, the CD mobile communications center would put in operation its standby police transmitter which would maintain contact with officers cruising the area in radio-equipped police cars, until the damaged transmitter could be repaired.

As presently planned, the center will have at least 12 separate "standby" radio transmitters and equivalent radio receiving equipment. A gasoline-driven electric generator will be available as an auxiliary power supply if normal power facilities cannot be obtained in emergencies.

Present communication facilities to be coordinated in the new system include those of city, county and state police; fire departments; the telephone company and its public radio-telephone system; power company; county highway department; taxicab companies and construction companies.

Each of these agencies broadcasts on a different frequency, some using still a different frequency to receive messages from its mobile units. Equipment to be installed in the mobile civil defense communication center will duplicate the broadcasting and receiving facilities of each agency. This will allow the center to take over when an agency's dispatching facilities are disabled.

Unique switching provisions will permit one man to operate all the transmitters in the mobile communications center. When the load demands, he can call for the assistance of three additional men. The equipment can be operated in four groups to permit this flexibility, engineers explain.

Eventually, it will be possible for the CD communications center to reach separate groups of the participating agencies through their civil defender receivers. Messages intended only for the police and fire departments, for example, would not be heard by the other agencies.

It is further planned to use a novel remote control feature of the new receivers to control the operation of air raid sirens by push button from the civil defense communications center.

Radio equipment being built by General Electric for installation in a trailer to be used by Civil Defense officials as the hub of an emergency communications system in Onondaga County, N. Y.

ASK ANY QUALIFIED AND IMPARTIAL AUTHORITY . . . HE'LL TELL YOU

YOUR *BEST* PROTECTION

FOR FLAMMABLE LIQUID . . . GAS AND ELECTRICAL FIRES . . .

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MODEL 30-B

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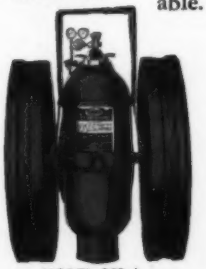
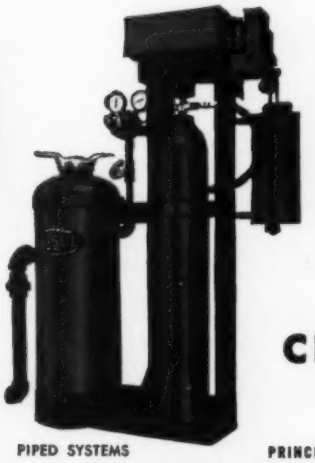

MODEL 350-A

MODEL J1-340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Fire Chiefs, insurance inspectors, safety engineers, etc. recognize Ansul as the leader in the dry chemical fire extinguisher field. Ansul Fire Extinguishing Equipment and *"PLUS-FIFTY"* Dry Chemical have set unparalleled standards of quality for the fire extinguisher industry.

You get *complete* dry chemical fire protection only from Ansul. There is an Ansul Dry Chemical Fire Extinguisher of the proper size for almost every flammable liquid, gas and electrical fire hazard.

Safeguard your plant and irreplaceable equipment with the *BEST* fire extinguishing equipment available. Protect them with ANSUL EXTINGUISHERS.

ANSUL EXCLUSIVE FEATURES

- Patented Nozzle assures most effective stream pattern . . . Best results by inexperienced operators.
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Send for File No. 714. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped Systems and Ansul 2000 lb. Stationary Units.

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MANUFACTURERS OF INDUSTRIAL CHEMICALS • REFRIGERANTS AND REFRIGERATION PRODUCTS • DRY CHEMICAL FIRE EXTINGUISHERS

Fire Service Ladders

(*Continued from page 635*)

tempt to "run" up or down a ladder, but climb smartly, steadily, smoothly.

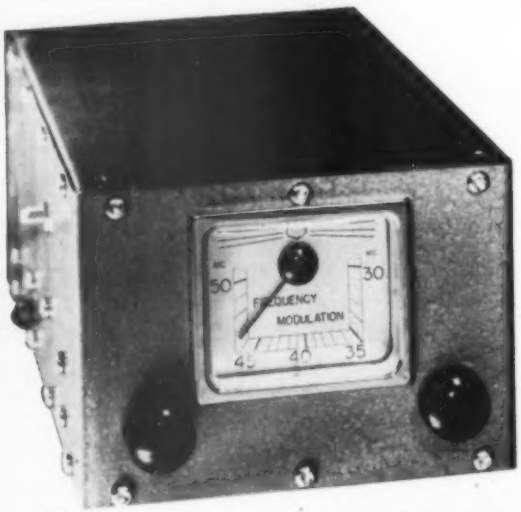
In an extreme emergency, a rapid descent of a straight ladder may be made by straddling and sliding the beams or rails.

Leg-Lock (Locking-in)

When working on a ladder, it is frequently necessary to have both hands free. Under these conditions, a fireman so operating should not release his hold on the ladder until he has properly secured himself, preferably, of course with a ladder belt or other approved fastening. Where such fastenings are not available, the climber should take a ladder or leg-lock—in the process known as "locking-in."

The procedure, as illustrated, is simple. The climber ascends the ladder to the desired height. He then passes one leg through the ladder over the second rung above the one on which he stands, then brings his foot back through the ladder, under the rung over which his leg is hooked, and "hooks" his foot around either the beam of the ladder or the rung. The beam is preferable.

It is best to lock-in on the side of the ladder oposite that on which the work is to be done (such as hoisting hose, or other ladder, etc.) Either side beam leg-lock may be taken when the ladderman is operating a nozzle from the ladder without ladder-belt or other securement.



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Says S. L. Grant, City Manager, Winchester, Virginia . . .
"I think you have a receiver that is well built, and I see no reason why it should not be in demand by all public works departments that have a transmitter available."

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Users of FM 2-Way Radio Communications equipment throughout the entire nation, find Polic-Alarm and Monitoradio a welcome innovation to low-cost mobile communications radio . . . receiving units that every municipality can afford! With them, channel neighbors are monitored for pertinent information —all staff members are constantly alert to communications while driving on or off duty, or at home . . . Polic-Alarm and Monitoradio are invaluable to vital communications systems expansion and development.

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Fixed Frequency in both bands
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U.S.C. to Compile Fire Book

Hundreds of slips of paper flew around Los Angeles Fire Department headquarters as 35 fire inspectors and 2 arson investigators handed notes to three U.S.C. College professors gathering material for a text book to be published on Fire Prevention and Fire Fighting. Fire Chief John H. Alderson, President of the International Association of Fire Chiefs, announced that the I.A.F.C. would publish the book, to be used by high school and college teachers throughout the country as soon as the professors are ready.

Dr. Claude C. Crawford, professor of education, and Dr. Robert C. Gerletti, public administration educator, originated the note passing or "slip technique" of collecting material on specific subjects. "The 'slip technique' is known by very few," explained Dr. Crawford, "but has been used quite successfully by us on three occasions. During our August session the Fire Prevention Curriculum Workshop will use these slips in preparing the Fire Prevention Text Book for publication. Writing and teaching techniques of the many teacher-students will be employed in compiling data on this hitherto unpublished subject."

Chief Alderson enthusiastically endorsed the professor's work and announced that the IAFC stands ready to publish the teaching materials that result from the workshop. In explaining the need for this course in school the Chief said, "local fire departments can put out only a few of the many fires resulting from enemy attack or a major disaster. Every citizen must be ready to be his own fireman, every family its own fire station. Educating millions for this task challenges every teacher in our schools."

Over 30 specific subjects will be included within the book ranging from agriculture to zoology and their relation to fires. The Workshop will be limited to those possessing a Bachelor's degree plus a course in the principles of secondary education, the University announced, and credit towards M.S. and Ph.D. degrees will be given as well as recognition for joint authorship of the book.

Fire Protection Scholarships to 16

Fire protection scholarships have been awarded by the Stock Fire Insurance companies through the Western Actuarial Bureau to 16 students. The four-year scholarships are to the Illinois Institute of Technology in Chicago.

Each award provides tuition payment and other fees for the regular four-year course at Illinois Tech, the only college or university in the country offering a degree in fire protection and safety engineering.

Winners were selected on the basis of competitive examinations, high school record, personality, and character of the applicant.

During summer vacations the actuarial bureau assigns each scholarship student to a position with one of its midwest inspection bureaus. After graduation the student goes on the full-time payroll with the same sponsoring firm.

The scholarship program was set up in 1920 and more than 400 graduates have entered the insurance field.

PAUL C. DITZEL

?

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Answer—

the 4 NAP FOGNOZL

Since the inception of the first Griswold FOGNOZL, in the late twenties, several model changes have been placed on the market. This is a natural transition in growing American companies where creative minds are free to exercise their inventive genius for product improvement. The history of FOGNOZL is no exception.

In 1946 the last major model change was effected — the 4 NAP FOGNOZL replacing the Model 4 AF. After five years we are proud to report that the field service record established by the 4 NAP has exceeded all expectations. Some of the outstanding features of this proven FOGNOZL were suggestions given to us by Firemen — "That Man on the Firing Line"—who knew what he wanted in a precision engineered, sturdy, and low upkeep FOGNOZL.

Any questions you may have regarding FOGNOZL will be cheerfully answered.

There are many Fog Nozzles on the market but there is only one Griswold FOGNOZL.*

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FALSE ALARMS

Self Improvement?

A manufacturer of machine parts was pleasantly surprised to note that a girl clerk was at last taking a genuine interest in learning the meanings of some of the technical terms used in his business. He found these definitions scribbled in her shorthand book:

"A bolt is a thing like a stick of hard metal such as iron with a square bunch on one end and a lot of scratching wound around the other end. A nut is just like a bolt only opposite, being a hole in a little square of iron sawed off short, with wrinkles around inside the hole."

The salesman whose pants wear out before his shoes is making too many contacts in the wrong places.

Barkeep to Barfly: "Don't you think you've had enough to drink?"

Barfly to Barkeep: "Misshen, lister, I only had tee martoonies and I'm not as much under the affluence of inkahol as some thinkle may peep, and the drunker I stand here the longer I get!"

A salesman is a fellow who believes in life, liberty and the happiness of pursuit.

"They say in Mexico you can get three pounds of sugar, a pound of coffee, a quart of whiskey and a wife for three dollars."

"I'll bet it's rotten whiskey!"

"Not Bad, Eh, Tom? Not Bad!"

Salesmanship

The proprietor of a tobacco shop was worried. A competitor was attracting crowds by employing a beautiful Spanish girl to sit in his window and roll cigars, meanwhile "giving the eye" to the men outside.

Then the other man had his idea. The next morning a luscious blonde was rolling cigars in the window—but with her back to the window.

There was soon a crowd—inside the shop.

Rookie Joe

Why Take Chances

The medical officer was testing the water supply.

"What precautions do you take against infection?" he asked the sergeant in charge.

"We boil it first, sir," said the sergeant in charge.

"Good!"

"Then we filter it."

"Excellent!"

"And then," said the sergeant, "just for safety's sake, we drink beer."

She: "Doesn't the bride look stunning?"

He: "Yeah. Doesn't the groom look stunned?"

"Boss, may I have next Wednesday off?"

"I don't think so."

"But it's my silver wedding anniversary and my wife and I had hoped to celebrate."

"For heaven's sake! Am I going to have to put up with this every 25 years?"

A good many Europeans are now eating their meals on the American plan.

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INDIAN FIRE PUMPS are first line of defense against incendiary attack. Air raid wardens, fire departments, war plants, forest rangers and private citizens need plenty of these portable, clear water extinguishers.

Nozzle is adjustable for powerful, straight stream or fine spray. Big, rust proof tank holds 5 gals. of water. Civilian defense organizations were equipped with thousands of **INDIAN FIRE PUMPS** during the last war. Don't delay! Send in your order NOW. We will ship immediately.

Air raid wardens of New York City, each equipped with an **INDIAN FIRE PUMP**, parade during World War II

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Drench effectively changes the characteristics of water without limiting its use or requiring special equipment. Join the hundreds of fire companies now using Drench. Write for complete details on how you can save on water . . . damage . . . and stand-by protection with Drench.

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West Chester, Pa.

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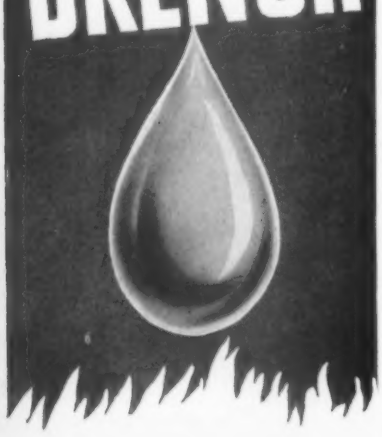

A NATIONAL FOAM PRODUCT

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

CIVIL DEFENSE PROGRAMS OF FIRE DEPARTMENTS

CONSPICUOUS in this Round Table discussion of Civil Defense preparations in American cities are the reports of difficulties encountered in building up auxiliary organizations. While other phases of the Civil Defense programs are making satisfactory progress, the problem of enrolling volunteer workers is still unsolved in the majority of cities reporting.

Training programs have been laid out and mutual aid set-ups have been formulated in the majority of communities reporting.

Many are waiting for action on the part of the federal government, expressing the belief that until constructive action is started by Washington, local programs will remain dormant.

Readers are invited to send in their comments on this subject which will be continued in the next issue to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

G. E. Courser, Chief, San Diego, Cal.: San Diego's present civil defense program is an enlarged and modernized adaptation of the city's World War II disaster plans.

It is headed by the San Diego Disaster Council. Our City Manager is the Executive Director of the program.

Council membership includes the following: Fire Division, Medical Division, Utilities Division, Communications Division, Red Cross Division, Law and Order Division, Public Works Division (Rescue), Transportation Division, Personnel & Recruiting Division, Public Relations Division, and various capable and public spirited local businessmen.

At this writing the Fire Division has assumed responsibility for no duties other than fire defense.

This Department would actively participate in County, Regional and State mutual aid efforts.

We are accepting volunteers for our Civil Fire Defense Program as members of our Fire Reserve Organization.

Residents of the city has so far indicated very little interest or desire to volunteer of their own accord. We have not, as yet, made a concentrated effort to enroll fire defense volunteers.

It is our intention to have the members of our Department attempt to secure enrollees for the Fire Reserve. We believe a more dependable type of individual can be secured for fire defense training by this method.

However, in the face of public apathy and lack of funds for suitable training facilities, we have not considered it advisable up to the present time to initiate a concentrated fire defense training program for volunteers.

Aroused public interest and allocation of suitable civil fire defense training equipment would obviously alleviate present conditions.

In our opinion these changes, if they are to be lasting and effective, must begin at the National, and not at the City, level.

Captain Roy Shanks, Secretary and Administrative Assistant, El Paso, Tex.: We have a Mutual Aid Program worked out and ready to put into operation. We have not made the attempt because, to date, no provision has been made for funds for training of auxiliary firemen, etc.

The same Secretary that served during World War II has been employed to head the Civilian Defense set-up, here. He has plans made to enroll Auxiliary Firemen, has appointed an Auxiliary Chief and Assistant and has the names of a number of citizens who are eager to serve. He is only waiting for some official word from the Government as to Training Programs, funds, etc. We had a very efficient Fire Defense Organization in El Paso during the last war and many of the men who served are eager to get back into it. According to our Civilian Defense Secretary, he is only awaiting official word before he starts enrolling volunteers.

Mutual Aid has been discussed with

HERE IS THE TOPIC

1. **Has a Civil Defense program been initiated in your city?**
2. **Briefly, of what does it consist?**
3. **Is your fire department a member of a mutual aid group?**
4. **Have you endeavored to enroll, volunteer, or auxiliary members in your fire defense set-up?**
5. **Have your efforts been successful?**
6. **If not, what do believe would be the solution to this part of the program of Civil Defense?**

the few Volunteer Departments in this area. We have always gone to the assistance of neighboring communities and they assure us that they will be glad to reciprocate. We have only about five volunteer departments in the valley, plus the department across the Border in Juarez, Mexico. We plan to enlist the aid of major construction companies, trucking outfits, the Bureau of Reclamation, and others with heavy equipment for rescue and salvage work.

The major effort of the Civilian Defense Council, so far, has been in setting up Air Raid Warning equipment, designating certain buildings for Bomb Shelters, and awaiting training material, etc., for the organization of Fire Defense.

Allie A. Feldman, Chief, Denver, Colo.: The City and County of Denver, Colorado has a civil defense program established by city ordinance, February 28, 1951.

The Denver Civil Defense unit is set up and functions in keeping with the Russell J. Hopley plan and as outlined by the National Security Board's booklet titled, "United States Civil Defense." A downtown office suite is provided for headquarters which is staffed by a paid director, assistant directors or aides, stenographic help, etc. All other key positions of the staff are filled by specialists in their respective fields; services being rendered on a volunteer basis. Many of the latter group are city officials, department heads or assistants, including the fire and police departments.

The State of Colorado is divided into ten mutual aid areas and the City of Denver is a part of that system. Denver is headquarters for its particular Mutual Aid Area, which is designated as area No. 3, and which is comprised of seven adjacent counties.

Denver welcomes and enjoys the unique distinction and privilege of having approximately half, or 300, of the Auxiliary Firemen of World War II, still organized and actively interested in fire department affairs. The group has been permanently organized on a social and civic interest basis; monthy business meetings are held and these include drills, discussions, written and oral quizzes, etc. Also, this group sponsors and pays for at least three major social affairs annually; a dance, card and bingo party, and a picnic.

At this writing, these men are engaged in recruiting 200-300 members for the current firemen's auxiliary program and they will continue their activities by serving in important assignments as instructors, group leaders, district leaders, clerical assistants.

Our recruiting efforts and interest in the establishment of a firemen's emergency disaster program has been very successful to date.

It is the writer's opinion that it is good for a fire department and the community which it serves to have a permanent organization, to serve as auxiliaries or assistants, in any major disaster, whether it be in times of peace or war. History will relate that it is an easy task to stimulate interest in fire department activities and affairs and this can be capitalized on by providing interest and attention from the fire department. Provide the lead-

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ership; provide a program, and the results will be well worth while.

William J. Connelly, Chief of Fire, Syracuse, N. Y.: The fire protection forces for Syracuse and Onondaga County were organized and have been functioning, under Civil Defense, since mid-winter.

Syracuse and Onondaga county were fortunate in that they had an efficient and effective mutual aid program, which has been in operation since before World War II.

When the present international crisis developed, leaders of the city and county departments met and agreed to the consolidation of all fire-fighting facilities and personnel for Civil Defense purposes.

This gives the territory a nucleus of 3,000 trained and experienced fire officers and firemen, 54 departments, and about 120 pieces of apparatus for Civil Defense operations.

The Chief of the Syracuse Department has been appointed County Fire Coordinator, and the Deputy County Fire Coordinator is Assistant Chief Ernest Holmes of Liverpool, N. Y., chairman of Mutual Aid and Fire Training of the Onondaga County Volunteer Firemen's Association.

A coordinated program is being worked out, which provides for automatic move-ups on a county-wide basis. The Syracuse Department's Fire Alarm headquarters is the communications center for all Fire Departments.

The communications system is to be augmented by a separate, independent radio network for fire services in the county as a whole.

The enrollment of auxiliary firemen is handled by the office of Director of Civil Defense for the county. After candidates have qualified, they are assigned by Civil Defense to the various sectors.

Training of auxiliary firemen, under a program which has already been formulated, will take place, for the most part, in Fire Stations in Syracuse and in the various communities. All Syracuse Fire Stations, incidentally, serve as headquarters for the 22 sectors, into which the city is divided under the Civil Defense program.

Our efforts have been successful as far as we have gone. We have had several highly successful "trial" runs and move-ups in the city and county. These are being continued, and everyone is cooperating splendidly. There are, however, phases that I would like to see stepped up. Appreciating the ramifications involved, I frankly admit that I do not know how this can be brought about.

C. M. Johnson, Chief, Knoxville, Tenn.: A training program for plant personnel has been completed, and is now being put into practical use in the various plants of our city.

A training program for volunteer auxiliary firemen is now ready to get under-way; we have thirty-nine men ready for the first class.

The fire department was designated to select suitable bomb shelters throughout the city. These shelters are being marked so that they may be easily identified in case of emergency.

Six very large sirens have been purchased and installed throughout the city; an alert warning system has been worked out whereby fire headquarters receives the alarm and relays it to the various fire stations to which the sirens are connected, and operated systematically by the fire department.

Shelters for the firemen, apparatus and equipment have been located on the outskirts of town and should we receive a warning of an air raid the firemen and apparatus will be dispersed to these various locations.

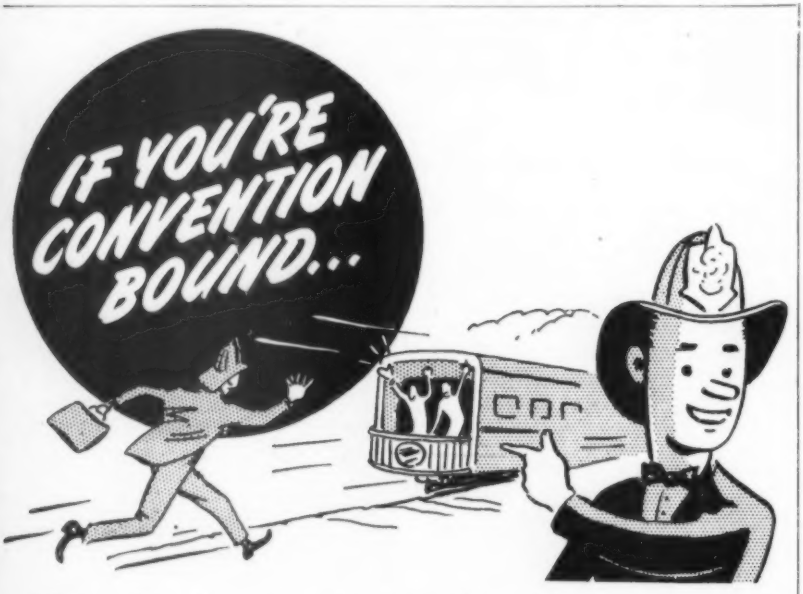
The enrollment of volunteer auxiliary firemen so far has not been what we had hoped. It seems that the people are not conscious so far of the importance of this program of preparedness.

We are just beginning to mark our bomb-shelters. This in itself seems to be creating a certain amount of interest. We believe that this and other evident signs of organization along with the cooperation of the press will eventually arouse the desired interest in the program.

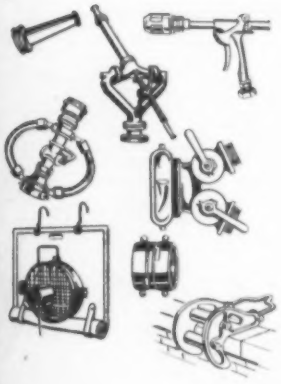
Thomas J. Phelan, Chief, Trenton, N. J.: There has been a Civil Defense program in existence for two years in this city. It consists of police and fire reserves, transportation, medical and disaster control as specified by the New Jersey State Law covering same.

Our Fire Department is a member of the Mutual Aid Group and we have endeavored to enroll members of the fire reserve thru the media of newspaper, radio and personal contact.

The Defense Council setting up a block plan for every householder will



Don't forget to look us up!



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interview them with a view of enrolling all adults in some phase of civil defense.

I must say that our efforts for recruiting have not been satisfactory. As I stated before we have this block plan which we are going to put into operation, and I am not too optimistic of the results.

In my opinion there is apathy on the part of the public in this matter, due to the fact there is no actual war and the confusing statements that emanate from so-called authority in which a statement is made one day and contradictory statement later and also the fact that the federal government and state government plans seem to be all on paper.

I do believe that the municipal government is doing its part in that we have a fully staffed office, and we are at the present time installing some twenty sirens which will be supplemented later with additional sirens if we find the present system does not give adequate service.

C. N. Penn, Chief, Dallas, Tex.: The Dallas Fire Department has trained approximately 200 Auxiliary Firemen in connection with our Civil Fire Defense Program. These men were given twenty hours of basic training by the regular members of the department, plus eighteen hours of standard first aid. The Auxiliary Firemen are divided into groups or squads of eight to twelve men with a squad leader in charge of each squad. Practice drills are held semi-monthly. These men have been trained in such a way that they can be called in quickly to supplement our regular fire fighting force in case of an unusual emergency where their services might be needed.

We started out with the hope of being able to train at least 600 volunteers as Auxiliary Firemen but we have found the interest in civil defense work with the general public somewhat disappointing.

We have always enjoyed the very best cooperation in regard to "Mutual Aid" from nearby towns and cities; however, we do not have a regular Mutual Aid Plan in operation at the present time. This department has always sent equipment to nearby cities when such equipment is requested by the fire chief.

I do not believe that we will have too much success with a regular mutual aid program until such a time as the Federal Government, State Government, etc. works out a satisfactory arrangement in regard to liability for personnel and equipment while enroute to and from fires, as well as while operating at fires, outside the Corporate Limits of the City or Town.

Elmer Cain, Chief, Cleveland, Ohio: The following Civil Defense Activities are in progress in the Division of Fire:

Coordination of all activities of the Cleveland Fire Department with fire departments throughout the county is being accomplished by having meetings of all Cuyahoga County Fire Chiefs once each month.

Auxiliary Firemen training is being conducted throughout the county under supervision of the fire chiefs. These classes are held once each week in fire stations under the supervision of the Captain. Classes consist of basic training and are in conformity

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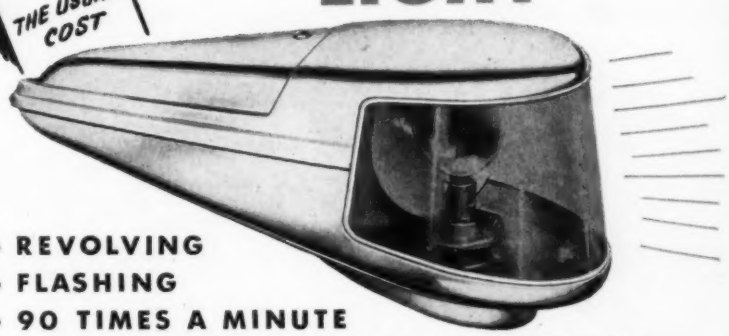

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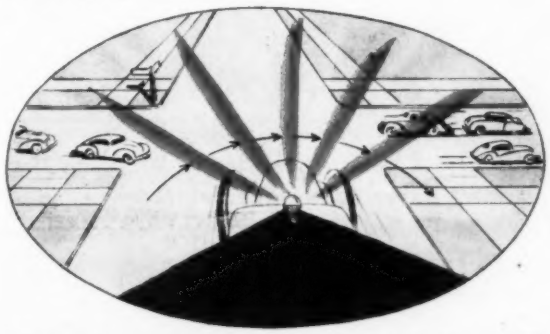

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with the Ohio State "Auxiliary Firemen's Handbook." In the county there are approximately 1,028 auxiliary firemen registrants, 62 training stations, 760 men under training of 50 instructors. Cleveland has 566 registrants, 40 training stations, 442 men in training under 40 instructors. Plant fire brigades are being activated under First Assistant Chief Nimmo; they consist of 225 brigades with 1,200 plant firemen. Fire department communications preparations have been planned with secondary mobile units for emergency use.

Radiological school classes are in operation at Case Technical School of Applied Science under the direction of Prof. Astle and fire department representatives are attending these classes. Radiological monitoring teams are being formed. John Carroll University has extended their facilities to the Civilian Defense effort. Information regarding blast damage has been given by their seismology department with a view of planning the dispersal program.

During the week of Nov. 27, 1950 classes were held for all firemen of Cleveland in addition to invited firemen from all departments in the county, representatives from industry, department stores, hotels, Board of Education, county and city administrative offices, etc. The classes consisted of instructions and motion picture films loaned by the U. S. Government. Subjects of the lectures were: "Atomic Science"; "Atomic Weapons Effect"; "Radiological Defense Techniques and Equipment Decontamination"; "Medico-Biological Effects of Atomic Warfare"; "Summation of General Instructions". A question and answer period was entertained with excellent results.

The Fire Department Dispersal Plan is being developed and actual drill on the tentative plan is scheduled for a near future date.

Second Assistant Chief Frank J. Cooney is in charge of the fire department activities for Civil Defense and he has done a remarkable job in planning and organization in a short period of time.

Alfred Peterson, Fire School Chief, St. Paul, Minn.: A Civil Defense program was inaugurated in this city in June of last year.

The program is made up of the following divisions: police, fire, medical, private plant protection, transportation, radiological, etc.

Peacetime mutual assistance is rendered when requested. As to mutual aid assistance under the defense program, this is contemplated by both St. Paul and Minneapolis under the proposed Metropolitan Area Plan. Many voluntary fire organizations in rural suburban areas of this city are organized to render mutual aid assistance to both fire departments in the metropolitan area.

Some effort has been made by this department to enroll auxiliary firemen. Our local St. Paul Office of Civil Defense is handling the procurement of auxiliary personnel.

Our efforts have not been successful. They have been far from satisfactory in both instances. As a point of information we did obtain about 85 enrollees for the auxiliary fire service through our local Civil Defense Office. Only 35 members of this group appeared at the first scheduled training meeting. Most of these absent candidates sent in letters of resignation. Eight new members were enrolled through the efforts of regular auxiliary group in school attendance. We have an active group of 43 members who recently completed their basic training course in firemanship fundamentals.

I do not know what the solution to this problem is. This $64 question might be termed highly speculative.

It is the personal opinion of the writer that much apathy prevails among the members of the civilian population in the matter of actual emergency civil defense needs and protection. There has been no laxity on the part of this Department and our Civil Defense Office in attempting to stimulate and procure adequate personnel. Considerable publicity has been given this matter by our local newspaper and by radio broadcasting stations as well as by personal appearances made before various civic organizations to foster and encourage the enrollment of needed volunteers.

People who have been contacted for membership especially as to our defense organization are simply not interested in civil defense needs. Our Police Department has been more fortunate for they have obtained an auxiliary personnel force comprising 250 active members.

We have been confronted with the usual type answers that the present status of our defense program offers no means of protection or security to its prospective members who might sustain personal injuries while in serv-

Another BOYER!

★ ★ ★ ★ ★

Glen Ellyn, Illinois, purchases a Boyer Combination Fire and Crash Truck for use in residential fire protection and local airport. Powered by Waukesha Motor and Hale HPZL Pump. Equipped with 1000 gallon Booster Tank—Rockwood Foam-Wet Water Proportioner.

BOYER fire apparatus is custom built. Regardless of your specifications, let us figure on your needs.

500-1250 Gallon Pumpers
Squads and Hose Cars
Quadruple Combinations
Rural Tankers

BOYER FIRE APPARATUS CO.
LOGANSPORT, IND.
ESTABLISHED OVER 70 YEARS

ice training and by possible combat action.

As a whole the fire defense program has nothing to offer its auxiliaries but work and hardship, which are without the usual gains of remuneration and protection standards given to the regular fire force. The question of enlisting in this branch of service from the standpoint of a moral and patriotic duty to insure self-preservation and provide reasonable security to community citizens is given little thought. The fact of the matter is, that no emergency can happen here and the incident of Pearl Harbor is forgotten in the minds of many.

After our experience with the auxiliary fire force we had in World War II and which was demobilized due to lack of interest and inattendance during training periods, what I might have to offer as a solution to this problem might be termed another crack-pot idea.

In order to have a suitable fire defense force for this area to augment the existing regular task force in this Department we need at least 1,000 auxiliary firemen. Substantial fire apparatus and equipment must be obtained in addition to that which we now have for supplemental use and protection.

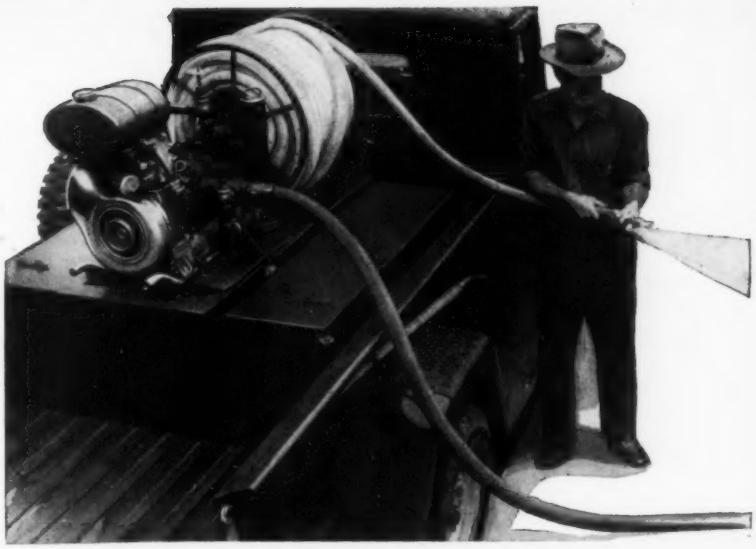
The thought I have in mind with reference to an auxiliary force is that a feasible plan might be worked out wherein and whereby acceptable citizens for this volunteer group could be obtained in a similiar manner as our State Guard Units are selected. That stringent regulations would have to be provided so that no member could shirk his responsibility during his enlistment period. This unit organization would function in the same manner as a regular volunteer fire department organization. The members of this force would become a trained group who could be called into immediate action if need be during any emergency. That provision be made to compensate these members for any loss of time sustained in the course of their regular employment because of injuries sustained in the fire service. Medical attention should be provided without cost to these members. Widows and children of these members should be protected under the present statutory compensation benefits in case of death cause by the performance of fire service duties.

Under this plan it is also proposed that each auxiliary fireman be compensated in a small way for each school attendance required and on all call-backs to emergency duty.

The proposed cost of this plan is to be budgeted from matched funds obtained through federal, state and municipal aid.

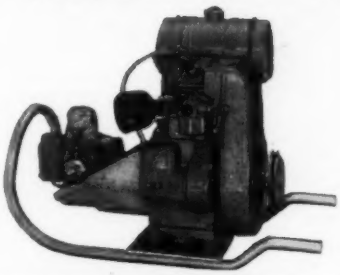
I do know that this type of project is going to cost money. However, if one desires the attainment of reasonable security and protection, you have to pay for it. Is it reasonable to expect soldier to train and fight without remuneration or protection Would the regular fire force of any department perform emergency duties without remuneration and protection standards? Any thing that must be obtained for nothing, usually has little value to offer in return. When called into emergency action the auxiliary

(*Continued on Page* 688)

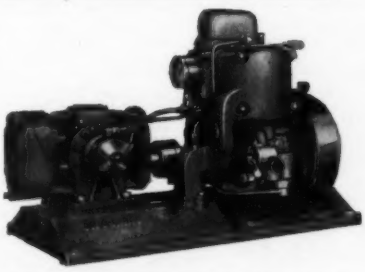


PACIFIC PUMPERS

AMERICA'S NO. 1 PORTABLE FIRE-FIGHTERS



AIRCOOLED WA-7—Ideal for truck installation yet light enough to be carried by hand to source of water, booster tank location or fire area. Driven by quick-starting, 4-cycle, aircooled engine, delivers 22 g.p.m. at 50 p.s.i. or 14 g.p.m. at 300 p.s.i.



FAMOUS TYPE Y—Proved in years of use by public and private forest protection agencies. Weight 70 lbs., adaptable to all modern accessories and techniques.

For over a quarter of a century, Pacific has been building pumpers to meet specific requirements for fire protection in forests, isolated industrial plants, small communities. From the earliest models still "ready to go" in hundreds of installations, to the new WA-7 now winning widespread endorsement from both public and private forest administrators, each Pacific Pumper combines portability with power to give *real fire protection* in a *real situation.*

Write for data on complete line of Pacific Pumpers and accessories. Illustrated above: PACOLIZED Cotton Rubber Lined 1" Hose.

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FIRE EQUIPMENT DIVISION

AUTOMOBILE
IDENTIFICATION
SHIELD—LITES—EMBLEMS

NEW
LUMINOUS EMBLEM
SCOTCH-LITE BLUE BACKGROUND
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DIAMETER 3⅜ INCHES

LIGHTWEIGHT PLASTIC
60¢ Each
Orders of 25 or more—10% Disc.
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SHIELD LITE
3-Inch Light in Center.
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Complete for Installation.
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Red Background. Polished Aluminum Letters.
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CAST ALUMINUM
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$4.90 Each
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Firemen & Chief Insignia in Place of Light.
Desired Inscription in Top and Bottom Panels.

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COMPLETE LINE OF FIRE—
FIRST AID—SAFETY—EQUIPMENT

Convention Dates

Aug. 16-18—CONNECTICUT FIREMEN ASSOCIATION. Annual meeting, Stamford, Conn. Secretary-Treasurer, John J. Moehring, 51 Rutz Street, Stamford, Conn.

Aug. 19-21—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual meeting, Olean, N. Y. For information contact Raymond Kenney, 112 Mohawk Street, Cohoes, N. Y.

Aug. 20-23—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, London, Ont. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Aug. 20-25—CENTRAL DISTRICT FIREMEN'S ASSOCIATION OF PENNSYLVANIA. Annual meeting, Lock Haven, Pa. For information contact Lock Haven Fire Department.

Sept. 4-7—MARYLAND SHORT COURSE. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 5-8—MONTANA STATE FIRE SCHOOL. Annual meeting Polson, Mont. For information, contact Polson Fire Department.

Sept. 10-14—VIRGINIA STATE FIRE SCHOOL. Annual meeting, No. 9 Station, 115 Thole Street, Norfolk, Va. Director, Fire Marshal Clay A. Easterly, Box 112, Martinsville, Va.

Sept. 14-15—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting and tournament, Philadelphia, N. Y. Secretary, Jack Farrell, 513 Lakeview Drive, Dexter, N. Y.

Sept. 18-20—KENTUCKY FIREMEN'S ASSOCIATION. Annual meeting, Lexington, Ky. Secretary, Lt. H. G. Bogenschutz, 100 W. 6th Street, Covington, Ky.

Sept. 19—FIRE CHIEF EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. For information, contact Chief John S. A. McAuliffe, Croton-on-Hudson, N. Y.

Sept. 17-20—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Mark Hopkins Hotel, San Francisco, Cal. Secretary, Irvin Schulsinger, 11 West 42nd Street, New York 18, N. Y.

Sept. 28-29—INTERNATIONAL RESCUE AND FIRST AID ASSOCIATION. Annual meeting, Roanoke, Va. President, Julian S. Wise, Box 441, Roanoke, Va.

Oct. 8-12—NATIONAL SAFETY CONGRESS. Annual meeting and exposition, Chicago, Ill. General Secretary, R. L. Forney, 425 N. Michigan Ave., Chicago 11, Ill.

Oct. 17—FIRE CHIEF EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. For information contact Chief John S. A. McAuliffe, Croton-on-Hudson, N. Y., President.

Rescue and First Aid Association to Meet

The annual Convention of the International Rescue and First Aid Association, along with a joint meeting of The Virginia State Association of Rescue Squads will be held in Roanoke, Virginia, September 28th and 29th, 1951. Convention headquarters will be at Hotel Roanoke, fully air-conditioned and modern in every respect. Outstanding speakers from throughout the United States and Canada will participate. Authorities in the field of Civil Defense, Fire Rescue, Life Saving and Resuscitation will participate on the program. A full and complete program is planned for the two day session which will run from 9:00 A.M. until 5:00 P.M. Evening sessions will consist of addresses by authorities in the field of oxygen therapy, including new techniques of rescue work. All non-members associated with fire departments are cordially invited to attend these sessions. All reservations should be made directly with the hotel. Julian S. Wise, Box 441, Roanoke, Va., is president of the association.

Propane Fire

(*Continued from page* 618)

Lack of room prevents reproducing the detailed log sheet of that busy Saturday and Sunday but between 1:10 P.M. Saturday when the first alarm struck in, until the last detail at 10:16 P.M. on Sunday alone, there were 114 calls, including still and box alarms, and companies reporting in. The gait kept up on Sunday, and on Monday. As late as Wednesday P.M., companies were still out at the fire, albeit reserve units were being used wherever possible.

Unrecorded were the hundreds of telephone calls from the curiosity seekers, and the other pests who keep the dozen or more trunk lines jammed for hours.

During Saturday, July 7, in addition to handling the Warren operations, the fire alarm office transmitted 9 box alarms and 8 still alarms; in one case, on Sunday morning for a fire at 2:35 A.M. for which Box 4217 was pulled and four other boxes followed quickly but were not transmitted. The fire amounted to nothing.

CHRONOLOGY OF RESPONSE—SATURDAY AND SUNDAY

Time Box

1:10 P.M.* 5136—Eng.Co.'s 8-16-5-27; Ladder 4-8; Batt.Ch.5; Dep.2.

1:11 P.M.* 5977—Eng. Co.'s 32-14-2-B31**; Ladder 1; Batt. Ch. 2; Dep. 3; Rescue 34.

1:13 P.M. Second—Eng. Co.'s 3-10-4-22-B33**; Ladder 8; Light 37.

1:16 P.M. Third—Eng. Co.'s 20-12-7; Ladder 5.

1:46 P.M. Fourth—Eng. Co.'s 23-11; Ladder 3.

1:46 P.M.—Recall of all off-duty personnel.

Companies Changing Location Automatically

First alarm—None.
Second alarm—Eng. 9 to 8; 19 to 27.
Third alarm—Eng. 17 to 10; 22 to 1. Ladder 6 to 4.
Fourth alarm—Eng. 21 to 12; 23 to 4. Ladder 11 to 2.
Special moves—Eng. 28 to 9; Eng. 13 to 15; Ladder 10 to 5.

Total Response

Chief Engineer and Acting Chief Engineer (Chief Burnett and Deputy Chief Sommers).
Acting Deputy Chief Albright; Acting Battalion Chief Sauro.
Deputy Chief Higgins; Battalion Chief Rees.
Engine companies, 17.
Fireboats, 2.
Ladder trucks, 6.
Rescue company, 1.
Floodlight company, 1.
Foam & CO_2 company, 1 (E35).
Fuel and supply truck, 1.

Organizations Other Than Newark F. D.

N.Y.F.D. Fireboat George McClellan and Fire Fighter (latter not used), Chief Powers.
Navy fire tugs, 2.
Bayonne Naval Base: one 750 G.P.M. pumper; one utility truck (foam) and one light and foam truck, Chief Peck.
Third Marine Corps District, U. S. Marine Corps Res., Charles J. Gilroy, responded with men only.
American Red Cross, Newark Chapter, H. V. Comstock, Ex. Director, with approximately 60 volunteers.
Technical Assistance from William H. Emerson Thomas, Safety Committee Chairman, Liquid Petroleum Gas Association (later placed in charge of in investigation into the cause).

*These boxes, one on the Warren property, were struck almost simultaneously. Operators permitted the full response to both for the same fire. Thus, in effect, there were five alarms.

**B31 and B33 are fire boats, 2000 G.P.M. capacity. E. 35 is the foam and CO_2 unit from the Airport.

There were many misleading reports printed about the fire force that rushed

NEW *Aer-O-Foamster* TAMES SMALL FIRES FAST!

GIVES SAME KIND OF PROTECTION AS LARGE OIL REFINERIES GET

Here's the new way to guard against small flammable liquid fires: keep a National Aer-O-Foamster on hand!

This new unit delivers a large quantity of foam to smother small fires quickly . . . gives the same kind of protection as large foam installations.

The Foamster is ideal for gasoline stations, bulk plants, refineries, chemical plants, loading rack installations . . . any place where mobility of fire protection equipment is important. It can be furnished for storage in below-freezing temperatures, ready for instant use.

Depending on the pressure and type of foam liquid used, the Foamster delivers up to 540 gallons of foam . . . has a range of up to 50 feet. It produces as much foam as a 40-gallon engine . . . but costs far less.

1 EASY TO CARRY
Has cast aluminum grip, is less than 2 feet high, weighs only 26 pounds with charge.

2 EASY TO USE
Has simple locking device for quick change-over to new charge. Delivers water or foam, without shut-down.

3 ECONOMICAL, TOO
Plug-in booster hose . . . no extra equipment needed. No yearly recharging necessary.

ANOTHER NEW PRODUCT BY NATIONAL FOAM
—pioneers in the manufacture of foam and foam equipment

For further information, see your nearest National Foam distributor, or write to the address below

NATIONAL FOAM SYSTEM, INC.
Headquarters for Foam Fire Protection
WEST CHESTER, PENNA.

NATIONAL FOAM SYSTEM — CONTINUOUS FOAM PRODUCTION

to the help of the hard pressed Newark firemen. Actually however, no aid was requested, nor was it necessary to accept any of the offers of assistance. Among the cities that did call and profer assistance were: Asbury Park, N. J.; East Orange, N. J., Irvington, N. J.; Harrison, N. J.; Hillside, N. J.; Elizabeth, N. J.; Plainfield, N. J.; Verona First Aid Squad, Verona, N. J.; Bayway Plant Esso Co. (foamite and fire equipment); New Jersey Civil Air Patrol (medical equipment), and Pyrene & Co., Newark.

From the moment when Deputy Chief Harry Sommers radioed the first alarm, which actually was a second alarm, bringing two full box alarm assignments, to the hour after-hour shifting and moving of apparatus and men, radio played an important part in the operations.

The area involved made it impossible to count upon any other form of communications to direct the broad scale operations. By means of radio in the cars of chief officers, there was some one in authority on all flanks of the fire and it was possible for officers to consult with each other and shift their forces as changing situations demanded. Also, it was possible to keep in close contact with fire headquarters.

According to different authorities, the civil defense forces were conspicuous by their absence. Only few auxiliary firemen reported for duty and there is no record of their being used.

Editor's Note: The photograph of the atom bomb-like explosion on the front cover is the work of the Nichols Photo Service of Bayonne, N. J.

CENTRAL TRUCKS
are well worth
LOOKING INTO!!

Central 500-Gallon Equipment Recently Delivered to Jefferson Township, Ohio

Central 500-Gallon Fire Equipment Recently Delivered to St. Jacob, Illinois.

For more than 25 years, pride of workmanship, careful attention to important hidden details, and top quality materials, have made Central the "buy word" in hundreds of communities. You are assured of that inbuilt value in EVERY Central Truck. Proof? Many are still doing yeoman service after ten . . . fifteen . . . twenty years of rugged, daily duty. Compare—and see for yourself why Central should be represented in YOUR department.

CENTRAL FIRE TRUCK CORP.

4437 MANCHESTER AVENUE, ST. LOUIS 10, MISSOURI

Extra-Curricular Activities

(*Continued from page* 630)

embroiled in the communist rallies and riots near Peekskill, N. Y., two years ago. Knowing the possibilities of rioting, the State Police requested the then fire coordinator of Westchester County to furnish fire police, to help maintain law and order. This was refused, on the proper grounds that fire police had no jurisdiction outside their own bailiwicks. The officer was made to have fire police take over in their own localities, replacing temporarily the regular police, if the latter were drafted to go to Peekskill. But this suggestion was refused. Firemen came into the picture when requested to furnish pumpers and tank pumpers and lighting outfits with men, ready to extinguish any fire that might start in the tall grass and amid the load of old wooden furniture and benches gathered in the field where the meeting was held. They—the firemen—were present only on the understanding they would be protected by the police.

In the west, fire departments as well as fire police, have been alerted to stand by when riots were threatened. In other areas, firemen have been called upon, and served, to aid police in subduing prison riots (much against the will of some of the firemen who said they didn't mind risking their life in fires, but they hated to be shot to death!).

In an effort to secure the opinion of firemen concerning participation in industrial strikes, *Fire Engineering* conducted a Round Table, participated in by many of the leading chiefs in the nation. It was generally agreed that such type of work is not favored by officers of departments. It was pointed out that apart from the hazard to the men and equipment, and the disinclination of firemen to take sides in any such issue against workers who may be their friends, such extra curricular activities deprive the city of proper fire protection during the operation. Where fire departments do participate in maintaining law and order, it is generally agreed that it should be done only as a last resort.

The Dewatering Problem

One of the most exasperating problems that comes within the category of extra-curricular activities is that of dewatering cellars and basements. Heavy rainstorms or floods, broken water mains and sewers account for many calls upon the time, equipment, and patience of fire departments as residents of areas so affected look to some municipal service for assistance.

Although fire chiefs are usually willing to cooperate in such an emergency, they in many instances do it only under protest. A number of fire officers, paid as well as volunteer, have ruled that under no circumstances will they use regular fire apparatus for this purpose because of possible damage to units so operated. As one chief put it "I don't mind using old civil defense pumps, or discarded fire apparatus for this purpose, but I will positively not jeopardize my regular equipment by detailing it for such duties." This officer, like many others, refers all requests for dewatering to the local sewer or street and highway departments which are equipped with suitable equipment.

In an investigation made into this

practice by *Fire Engineering* some years ago, fire chiefs generally considered the practice as an expensive hazard. There is great danger of pumps being injured, due to grit and sand or other foreign matter lodging in gauges, tubes, valves and screens as this water is always dirty. Equipment must be overhauled after being subject to such use.

Where departments are limited to the number of pumpers available for fire fighting, as in many small communities, there is an added danger of the equipment being out of the station and out of service on this sort of work at the time of the breakout of a fire. It is true that the addition of modern radio communications in the fire service has somewhat lessened the hazard of this operation, inasmuch as a pumper can be operating on this extra-curricular work, and still be "in service" to all intents and purposes. The fact remains, however, that fire departments are organized to protect life and property against fire and they should always be on hand and ready to answer fire calls.

Surveys made by this Journal indicate that the majority of those chiefs questioned on the matter, constituting a representative cross section, said that flooded conditions are relieved by some branch of the department of public works, such as street, water or sewer division. It is disclosed further that unless the trouble has been due to a break in the water or sewer lines, or as the result of neglect on the part of some city department, a charge is made to the person receiving assistance.

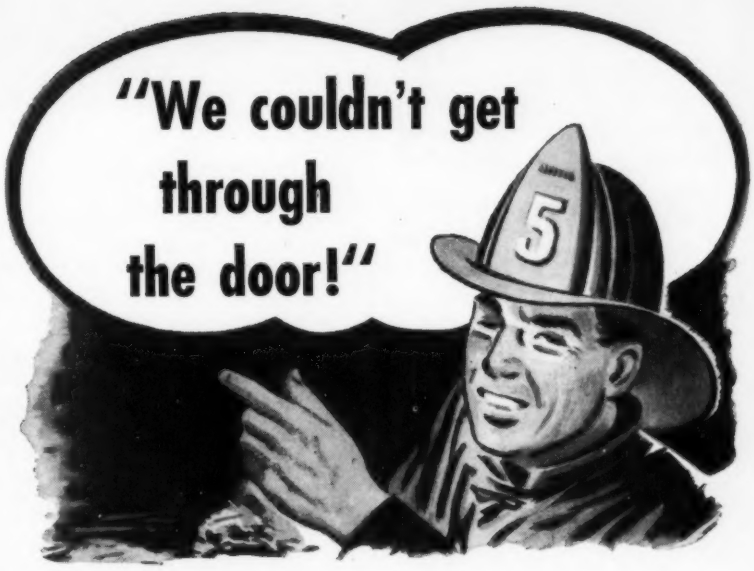
In many municipalities where relief is not obtainable from any other department than the fire force, it is contended some charge should be made to reimburse the fire department for the wear and tear on apparatus when so used. Owing to the number of calls received some cities have found it advisable to equip the fire departments with dewatering siphons to be operated either with city pressure or by pressure from the pumpers. A number of cities use the old O.C.D. trailer, skid mount and front mount pumps for this purpose, while others employ lift pumps, or portable pumps attached to light vehicles, such as chiefs' cars.

Many fire departments appear to consider the dewatering of basements after a fire to be part of their salvage operations. They proceed to open catch basins and drains as soon as possible in order to permit water to recede. Under these conditions, or where there is a special hazard following a fire (as in flooding the subways), pumpers are sometimes used to remove the water.

Rugged lift and other portable pumps, capable of undertaking this work, represent a good investment for the fire service, as an adjunct to the regular apparatus, and as a way out of this bothersome extra-curricular task.

Schenectady Report Part of Promotion Piece

As in years past, the Annual Report of the Schenectady, N. Y., Fire Department, Chief James Higgins, is contained in a combined city report which takes the form of promotional literature. The monetary fire losses and most of the operational data pertaining to the fire department are omitted.



If the fire's roaring when you roll in, you're on the defensive from the start. But you know of many fires that you could have stopped if you could have just "gotten through the door."

Well, UNOX Penetrant-*Wet Water* will get you through a lot of doors. You've never seen fires go out so fast as you'll see with this effective penetrant. And you won't get rekindles.

Just mix UNOX Penetrant in your booster tank or proportion it into your lines. This *Wet Water* will do 3 to 4 times more fire-fighting than plain water. If you want to see real "knockdowns"—get UNOX Penetrant from your fire equipment dealer today and use it.

• • •

See our 16 mm. sound-color film, "Fire-Fighting with Wetter Water," loaned free. Write to our dealer or direct to us.

"UNOX" Trade-Mark Penetrant

UL

CARBIDE AND CARBON CHEMICALS COMPANY

A Division of Union Carbide and Carbon Corporation

Now available
for CIVIL DEFENSE and commercial application

the NEW LINK PACK SETS
for FM 2-way radio-telephone portable operation.
TYPE 3035-25-50 Mc
TYPE 3036-152-174 Mc

A new and greatly improved portable assembly, incorporating several new features, is now in production at the LINK plant. These new Pack Sets are especially recommended for Civil Defense planning. They are ideal for fire and police service and other emergency work. Public utility companies, pipe line groups and other organizations who use field crews constantly, will find these new units extremely practical for communication between crews and base station or vehicle location. These Pack Sets also are recommended for use by Forestry and Conservation groups.

For details, please write to Dept. A. M.

LINK Radio Corporation
125 W 17th St. N.Y. 11, N.Y.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Vamps Set Fire for Thrill—Get It!

Three Massapequa, L. I., volunteer firemen who said they wanted the thrill of driving or riding on a speeding fire truck with red lights flashing and sirens wailing, were arraigned in Mineola district court June 10, 1951, on charges of setting a $3,500 fire in Massapequa. They will face grand jury action on third degree arson charges.

The three, aged 18, 19 and 27, respectively—the latter married and the father of two children, reportedly toured bars in the neighborhood and a little after 2:00 A.M. on June 10 decided to "get some action." They drove around for a while, then picked an unoccupied model home some five miles from Massapequa's fire station but lying just within its fire district, as their objective.

The three, "using a petroleum product," started a fire in the basement of the house, according to Fire Marshal George Clough of Nassau County, then raced back to the firehouse. Once there, said Clough, they sauntered into a nearby bar to await the alarm—and to be sure they would be first at the station.

They didn't have long to wait. A couple who had seen the men "doing something" to the house, but not realizing they had set a fire until flames shot out shortly thereafter, gave police the number of the car used by the vamps; the license was checked, and the men arrested, one while at the fire, the other two at their homes.

According to Marshal Clough and Arson Squad detective John Goebel, there have been a number of small fires of questionable origin in the vicinity of Massapequa and a checkup is being made to see if there is any connection.

The Massapequa Fire Department directed by Assistant Chief Aldo Litters extinguished the flames, but not until the structure was practically gutted.

* * *

Waterbury Firemen Carry the Mail!

Acting Postmaster William J. Phelan of Waterbury, Conn., feels kindly toward the local fire fighters for their quick thinking in handling a mail box fire.

Engine Co. 10 of the department responded May 15th, last, at 5:38 P.M. to a call from 139 E. Main street where, in front of the State Theatre, firemen saw smoke curling out of a mail box.

They promptly picked up the box and hurried it to the curb outside the Waterbury Post Office, borrowed a key from postal authorities, opened the box and removed the "fire." It is reported that only part of one letter was scorched.

It seems that some miscreant tossed a cigarette butt into the box, which landed on a mail bag!

EUGENE A. LEGGE

* * *

Gentlemen May Prefer Blondes But Firemen . . . ?

Getting all mixed up with a blond, and extra-curricular work, brought injuries to two Medicine Hat, Alta., fire fighters on June 24th, last.

The injuries were received while the firemen were attempting to untangle the rope which hauls meals and supplies to Mrs. Vera Allen of Ottawa, on her 50-foot perch atop a flagpole.

The rope, in a block-and-tackle, became ensnarled because of a driving rain and the two firemen, responding with their apparatus to an emergency call, were using a 38-foot ladder, leaning against the cedar flagpole, when the ladder slipped from its base and tumbled the two men 20 feet to the ground.

Capt. Gordon Mayberry suffered multiple leg fractures, including both ankle bones broken; Emerson G. Webber broke his right wrist and suffered back injuries. Both were hospitalized.

Earlier, Mrs. Allen went aloft via aerial ladder to a six foot by seven foot "penthouse" perched on the pole, to begin a two week vigil to publicize the Medicine Hat stampede, July 5-7. It rained almost constantly during the days that followed. After the accident she was given an electric heater, private telephone, a slicker and windbreaker to protect her against the elements.

Thanks JOHN JEBINS

* * *

All in the Spirit of Fun!

In Detroit, skin grafting was reported resorted to in order to cover the burned flesh of 17-year old Douglas Brisbee, high school student, who was turned into a human torch in May during initiation ceremonies when one of his teachers tried to shock him with a magneto.

The victim suffered second-degree burns over most of his body when the magento touched off flames on his paint smeared chest. Brisbee, it seems, was one of 20 initiates into the Cass Technical High School Aeronautical Club. Part of the initiation consisted of stripping the neophyte to his waist and daubing his chest with silver paint. The solvent in the paint caught fire when an instructor touched him with a magneto.

The instructor dragged the blazing victim from a table where three other boys had undergone the same initiation, and put out the flames, burning his hand in the process. He said he believes a spark jumped from the magneto to the table, causing the paint to flare up.

At Receiving Hospital, physicians spent more than an hour removing paint from the boy's body so they could treat his burns. The Cass Tech. president denied the boys were being hazed, claiming similar initiations had been used in the club for over 20 years with no harmful results.

* * *

Hot Off the Ticker

In Malone, N. Y., firemen fighting a blaze in an apartment came upon a man emptying the grocery store cash register on the first floor. He was holding an umbrella over his head to protect himself from the hose water pouring through the floor of the apartment above. . . . In the interest of safety, firemen of Minden, Neb., say they're gonna squelch the old American custom of chasing fires. Fire and police officials will see that any such 'chasers' will be fined! . . . In St. Louis, an obliging Terminal Railroad switching crew car-

ried a fire more than half way to a fire station, then parked it beside the fire plug where equally obliging firemen extinguished it. Fire was in the last of a line of 13 freight cars containing scrap lumber. Switchers worked burning car from the Sixteen st. yards to a siding at 10th and Poplar sts., two blocks from Engine 2's quarters. The latter Brothers, alerted, quickly doused burning box car, returned to bed. Damage $50. (Thanks R. H. Davidson). . . . New York City fire fighter William Gerlach of Ladder 20, Manhattan, married the former Mickey Divine. She is the divorcee of Horace E. Dodge, Jr., and received settlement of $1 million. Couple celebrated honeymoon at Playland in Rye, will live in modest apartment. Fireman Gerlach says it took him a year to propose to Martha, an old friend. . . . Firemen played a part in the riot of the 400 prisoners of Utah State Prison not long ago, when on request of authorities, they sent floodlights from Salt Lake City and other communities to augment prison lighting system. . . . It's claimed by press, Detroit fire chiefs want $1,100 to avoid ridicule! The city council is trying to decide whether the self-respect of a battalion chief is worth $1,000. That's the amount Fire Commissioner Paxton Mendelssohn (at the time chairman of the commission) asked to equip chiefs' cars with fire extinguishers. "As it is now," the famous fire-buff-commissioner declared, "if the chiefs come across a fire, all they can do is stand around and wait for the regular fire trucks. People hoot at 'em!" . . . Flames from a burning cottage near Ashland, Ore., threatened to spread to a nearby restaurant. Then Dan Van Epps came along driving his logging truck. With the help of bystanders, Dan ran a logging chain around the cottage and dragged the house, flames and all, off to an open field. . . . Down Dallasway, a discontented job-seeker, turned down by a grocer, attempted to set fire to the grocery store in West Dallas. But grocer Gardner didn't call the police. No, he just took the offender home to his mother. What mom did to the 5-year-old job seeker has not been reported (Thanks R. H. D.). . . . News item in Batavia, O. newspaper read: *"Moscow Requests Fire Aid From New Richmond."* Some response! Let's hope it won't be "one-sided mutual aid!" . . . In accordance with his wish, the body of M. M. Kickles was taken to the cemetery June 26th, last in a fire truck. He had been chief of the Iowa Falls Fire Department for nearly 50 years! . . . An orchid to New York fire captain (just appointed Battalion Chief) James J. Brennan of Eng. 65, three times cited for bravery, who was tickled to see his name at the top of the 176 name eligibility list for battalion chief not long ago. Although pleased with his 90.9 percentage, it somehow didn't jibe with his figures. He went to the Municipal Civil Service Commission and asked a recheck. They did their arithmetic over, and placed him No. 16½. Honesty was rewarded, however, because on June 19th, Commissioner George Monaghan gave him his trumpets. . . . William C. Johnstone, 76, who once played the role of the "Shadow" on the radio, was burned to death near Newtown, Conn. . . . It was a case of the mountain coming to Mohamet, when the driver of a wool-loaded truck discovered a fire among his bales. He drove the truck, and fire, right to the front of Engine

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21, Columbia rd., South Boston, and the Brothers lost no time saving the day—and the cargo (Thanks "Boston Jake").

* * *

Tough on Mothers but Awful on Fathers!

In Mobile, Ala., Hiram Ingram came roaring up to an ambulance station. "My wife's having a baby," he cried, "and my car's burning up!" Indeed, smoke was pouring from his chariot. Attendants at the station quickly transferred Mrs. Ingram to an ambulance. A seven-pound boy was born 17 minutes after her arrival at the hospital. Other attendants put out the car fire. Mother and tot were reported doing well; as for the frightened father, he is expected to recover.

It didn't go so well, however, for Stephen Nilan, 29, of Jersey City, N. J. Stephen was picked up by a radio patrolman at a fire alarm box at 2:00 a.m. on June 28, who got a flash of the fire call on his radio and sped to the scene—West Side ave. and Union st.

"Where's the fire?" inquired the officer. "Oh there's no fire," came back Stephen genially, "my wife just had a baby girl and I want everybody to wake up and celebrate with me."

Everybody in the neighborhood woke up as fire apparatus rolled in, but nobody was in a mood to celebrate with the proud papa, who was ignominiously carted to the hoosegow. In court, next day, the magistrate, who suspended sentence, noted drily in his lecture, that Mr. Nilan had perhaps celebrated overlong—records in the maternity hospital showed that a baby girl had been born to Mrs. Nilan on Monday the 25th—three days before!

* * *

What's in a Name?

Three minor fires within five hours broke out in the home of Ralph Fontanella in Stafford Springs, Conn., on July 7. Cause of the fires, which did $3,000 damage all told, was not known. The Fontanella residence is on, believe it or not, Furnace St. (Thanks Tom Magner).

* * *

Fireman—Call Me a Taxi!

When the house phone rang at the Springfield, Vermont, Fire Headquarters station at 4:13 P.M. on October 31st, last, the man on watch answered "Right away!" when a male voice asked "Can you make a run to Clement Road."

In nothing flat Engine 5 with two men arrived at the address given and found no fire—only an elderly man outside apparently waiting for them. Questioned by the firemen, he said he didn't know anything about a fire—that all he knew was that he had dialed on his phone for a taxi. "Must have dialed the wrong number," he opined!

The Springfield, Vermont, Fire Department is always ready to oblige—but the boys believe that furnishing taxi service is just too, too much. And they look upon the dial telephone system, which replaced the old type some six months ago, with a bilious eye.

(Thanks, JONAS WELCOME)

Obituaries

Hubert W. Tracy

High tribute was paid July 7th to the late Hubert W. Tracy, aged 52, who passed away on July 4th, at Woburn, Mass., after a long illness, when fire chiefs from all over New England came to attend the last rites. Tracy was a pioneer in the promotion of modern fire fighting equipment and for 28 years he had been associated with the American Fire Equipment Company. In that capacity he had met practically every fire chief in New England down through the years, and gained their confidence in counsel and advice.

The Solemn High Requiem Mass was celebrated at 11:00 a.m. at St. Charles Church, and as the last remains in the flag draped casket were borne from the hearse to the middle aisle of the church, the uniformed color guard of the George A. Campbell Post 101 A. L. led the procession. Over fifty chiefs in uniform opened ranks in the church yard, and providing a human avenue for the escorting of the body.

Bearing the casket were Thomas McAweeney of New York, C. Leo Gravelle of Woburn, John F. Scully of Boston, James J. Wall of Woburn, Carel Poole of Arlington and Robert Clark of East Providence, R. I.

Rev. Michael T. Collins, chaplain to the Massachusetts Fire Chiefs' Association of Marblehead was the celebrant of the Solemn High Mass.

Mr. Tracy was born in Woburn 52 years ago, the son of Frank E. Tracy, for many years Woburn fire chief, and Mary Battel. He is survived by his wife, Vera Hurley Tracy, three children Robert, Joan and Richard, two sisters and two brothers.

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Fire Education

(*Continued from page 638*)

during the current semester. At present the fireman's broad educational background is also being developed through such courses as English, public speaking, mathematics, and general studies.

All specialized fire courses are taught by qualified firemen. Chief C. L. Bolz, retired, of the Pasadena Fire Department, is well known throughout the region to members of the fire service. He teaches the introductory and advanced course in Fire Administration. The course in Fire Company Administration is taught by Battalion Chief Charles C. Howitt, Director of Training for the Los Angeles Fire Department. His years of experience in developing training programs for L.A.F.D. have given him an intimate knowledge of the educational and professional needs of the fireman.

Instruction in public administration courses is strengthened by relating the course content to the fireman's work. Instructors in these courses have attended training drills, regular fire calls, and have lived in the fire stations in order to gain an appreciation of the fundamental problems of fire administration.

All instructors in the fire program are carefully selected, approved, and appointed to teach by the President of the University. And although they are teaching university courses they do not rely upon textbook study alone. Their study assignments are augmented by some of the most modern education techniques.

From the start the committee of fire chiefs working with the University has emphasized that academic standards should be maintained in this program. The fireman's need, it was asserted, was not so much for a second rate degree or a souped-up training drill as for a nationally recognized degree with emphasis in fire administration. Consequently the School has adhered to the standard Bachelor of Science in Public Administration degree with fire administration as the field of specialization.

It should be pointed out that the joint curriculum planning committee has not planned a program for all firemen. These courses are designed primarily to benefit the administration-minded fireman and to fit him for management positions in the fire service. However, the courses are open to all mature persons interested in studying for university credits or degrees and these courses will meet some of the needs of every fireman. Credits earned are transferable to any college or university provided the student otherwise meets the formal entrance requirements.

And these courses have involved no sacrifice of academic standards. Quite the contrary, reports from instructors indicate that in mental capacity and alertness, these firemen are generally superior to entering college freshmen. Furthermore, they ranked well above the average for entering freshmen on the U.S.C. Freshmen Entrance Examinations. While it may be common practice with professors to "turn on the heat" to get entering freshmen to work, in the fire program the professors sometimes have to turn on the heat to keep up with the students.

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Factors and Nozzle Pressure

To the Editor:

I have been asked in class work quite a few times as to how the figure 29.7 is arrived at in figuring discharge. Your book on "Fire Service Hydraulics" does not bring this part out; also please solve the following problems for me:

1. A line of 2½-inch rubber lined hose 1,000 feet in length is stretched from a hydrant. The line is equipped with a 1-inch tip. Hydrant pressure is 60 pounds. What is the nozzle pressure?

2. The same layout as the above except that the hydrant pressure is 80 pounds. Solve for nozzle pressure.

Answer: The figure 29.7 used in the problem for discharge is calculated as follows:

The theoretical velocity of discharge is $V = \sqrt{2gh}$, where "h" is the head in feet creating the pressure, and "g," the acceleration due to the force of gravity. It is best to get "h" in terms of pounds instead of feet, for practically all gauges in everyday service record in pounds instead of feet. If h = head in feet, $\frac{h}{2.304} = p$, the pressure in pounds. By transposing the denominator in the above equation to the opposite side of the equation, $h = 2.304\ p$. Using this value of "h" in the formula for the theoretical velocity, the equation is $V = \sqrt{2 \times 32 \times 2.304\ p} = 12.14\ \sqrt{p}$ feet per second. The discharge $Q = Av = A \times 12.14\ \sqrt{P}$. This gives the discharge in cubic feet per second, where the area is in square feet and the velocity in feet per second. To get the discharge in gallons per minute it is either necessary to have the velocity in feet per minute and area in square feet and multiply the answer by 7.481, the number of gallons in a cubic foot, or else have the area in square inches and velocity in inches per minute and divide the answer by 231, the number of cubic inches in a gallon. If the measurements were in feet, the formula would be $Q\ (\text{in gals. per min.}) = \frac{.7854\ d^2}{144} \times 60 \times 12.14\ \sqrt{p} \times 7.481$, where "d" is the diameter in inches. The diameter squared multiplied by .7854 gives the area of the nozzle. In the above, if the diameter is in inches, then the area will be in square inches, and it is necessary to divide the area in square inches by 144, the number of square inches in a square foot, to secure the area of the nozzle in square feet. This explains the figure 144 in the equation. The velocity secured with the formula is in feet per second and must be multiplied by 60 to get the velocity in feet per minute, as shown in the equation. The 7.481 is the number of gallons in a cubic foot and changes the value of Q from cubic feet per minute to gallons per minute. This equation for Q solves down to $Q = 29.72\ d^2 \times \sqrt{P}$, which is a rough solution only—not entirely correct—and is intended to show the process of derivation. The value, computed using 2.307 as the height of a column of water producing 1 pound pressure per square inch, is $Q = 29.83 \times d^2 \times \sqrt{P}$. This value, however, must be multiplied by the constant, c, which depends upon the size of the nozzle. An average value of the constant may be used for ordinary purposes. This average is c = .9956. Using this value, the formula for discharge in gallons per minute is $Q = 29.7\ d^2 \times \sqrt{P}$, where Q is in gallons per minute; "d" is the diameter in inches; "p" is in pounds pressure per square inch.

Were the measurements for area of nozzle and velocity of flow in the above solution in inches, it would be more advisable to convert them into feet at the start and solve as shown than to carry out the work in inch units and finally divide by the conversion factor, 231, for if the measurements were at all large, they would produce unwieldy figures and make the way toward error easy.

And now for the two problems you submit:

The formula for finding nozzle pressure when the engine pressure (or hydrant pressure) is known is as follows: N. P. = E. P. ÷ (1.1 + KL).

In this formula, K is the factor depending upon nozzle and hose diameters and is, for 1-inch nozzle on 2½-inch hose, .105.

L, the number of 50-foot lengths of hose in the line, is equal to 1,000 ÷ 50, or 20.

Then N. P. = 60 ÷ (1.1 + .105 × 20)
= 60 ÷ 32
= 18.75 pounds nozzle pressure.

The second problem is solved by using the same formula.

Here, again, K is .105.

L is 20.

Then N. P. = 80 ÷ (1.1 + .105 × 20)
= 80 ÷ 32
= 25 pounds nozzle pressure.

Over-Age Pumpers

To the Editor:

As a volunteer fire company established three years ago, with a pumper, full equipment, and a new modern fire station, we are in trouble. We feel you can help us.

We bought from a neighboring city a 750-gallon pumper. We had the engine overhauled. We put the most

modern hose and accessories we could buy on it. We built a fire house. We are members of a county-wide mutual assistance plan, for which as our part we pay seventeen dollars per month.

Our community therefore asked for a test on our apparatus, with a view of getting an insurance rating. The neighboring Fire Insurance Rating Association sent a man down to test the pumper.

When this man arrived in town and learned the age of the pumper, he said he didn't think it would pass the test; he checked required equipment and found it satisfactory, so he said he'd test the pumper. Relief valve was set at 140 pounds and the engineer didn't change it. The valve stuck which, naturally, caused inefficient delivery.

We were denied rating. We have since overhauled the relief valve. We have repeatedly since then pumped as anchor on a three engine tandem. Our men have had state fire training. But we can get nowhere with the Rating Board.

If you could help us get a test and fair consideration we feel we'd pass it easily.

D. S. P.

Answer: First, both the National Board of Fire Underwriters and the International Association of Fire Chiefs have consistently held that fire engines over fifteen years of age must be considered obsolete.

Secondly, the slip in a positive displacement pump should not exceed eight per cent at 100 pounds pressure and not over sixteen per cent at 200 pounds pressure. Where a pumper does not deliver its rated capacity, it may be due either to excessive slip or poor condition of the engine.

As insurance engineers have set up certain requirements for acceptable condition of pumping engines, in order to justify granting insurance credit for them, and as the insurance companies who employ these engineers are the ones who furnish the public with insurance, their rules must be adhered to if credit is to be secured. We have always found that the insurance engineers are very fair in their judgment.

In the specific case you mention, we understand that the pumper is approximately thirty years old. This fact alone, coupled with the further information that the pumper had been discarded by a nearby municipality, would indicate that its years of useful life were at an end when it was purchased by your department.

The mistake made by many departments is in not first contacting the local rating organization before making improvements. Frequently money is spent for improvements which do not result in a reduction in insurance rates. On the other hand, if the rating organization is contacted first, and the recommendations secured and, further, if they promise an insurance rate reduction upon improvements being made, you will find that their word is good.

We are indeed sorry that we cannot be of any comfort to you in this matter,

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only when it has been PROVED in use

Consistent satisfaction in use is the acid test of any product's true worth . . . a test that Bar-Way Hose Couplings have passed with a 100% mark. "Never a failure" was first a strong claim, and now *a vital fact.* No other coupling provides this guarantee of public protection, in addition to the other advantages of Bar-Ways which add to user convenience, efficiency, safety and economy.

STREAMLINED: No objectionable projections to catch or to injure operator.

FULL FLOW: Full internal flow and full pressure are assured.

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HIGH PRESSURES: Bar-Way couplings will always more than stand the bursting pressure of the hose without danger of leakage. *They will not fail!*

IN ¾" AND 1" SIZES FOR BOOSTER, FOG AND CHEMICAL LINES

Here is what some important users write . . .

"In due time we will have all of our booster lines equipped with these couplings. We cannot speak too highly of this type of a small coupling."

"We standardized on Bar-Way couplings on all trucks and since that time we have had no trouble. We highly recommend to all fire departments throughout the country the use of Bar-Way couplings for trouble-free, long-lived service."

"Customers prefer this type of coupling because of its simplicity in attaching and also eliminates possibility of blowing off under pressure."

"Thousands of feet of hose have been equipped with these couplings and at this date we have yet to hear of one case of trouble."

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but we don't believe that any insurance engineer in this country would be inclined to allow you credit for pumping capacity of a pumper the age of that in question.

Procurement of Fire Apparatus Under Controlled Materials Plan

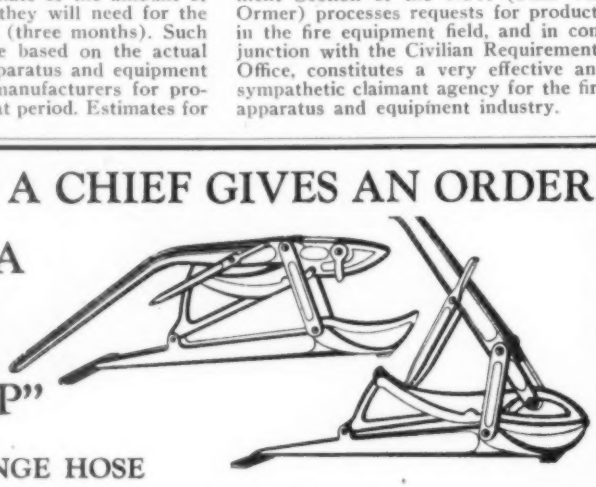
Under the Controlled Materials Plan, inaugurated in July 1 by the National Production Authority, fire apparatus manufacturers are required to submit to the NPA an estimate of the amount of critical materials they will need for the following quarter (three months). Such estimates must be based on the actual orders for fire apparatus and equipment received by the manufacturers for production during that period. Estimates for the last quarter of the current year were required before the end of last month (July).

The Office of Civilian Requirements of the NPA processes these estimates and sees to it that required materials are made available to the manufacturers. Key men in this office, with whom manufacturers must deal are Tom Burke and Fred Hawkins, both of whom are fully aware of the vital nature of fire protection. They are located in Temporary Building T. in Washington.

The Technical and Scientific Equipment Section of the NPA (Paul Van Ormer) processes requests for products in the fire equipment field, and in conjunction with the Civilian Requirements Office, constitutes a very effective and sympathetic claimant agency for the fire apparatus and equipment industry.

WHEN A CHIEF GIVES AN ORDER

"GET A HOSE CLAMP"



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Status of Federal Civil Defense Program

At the time this report is written, the Federal Civil Defense Administration is still awaiting action, on the part of Congress, on the request for appropriation to cover cost of purchase of fire apparatus and equipment for civil defense.

The appropriation has been approved by the House Committee, but congressional action must still be taken.

If funds are forthcoming, it is likely that the first order for standard fire engines will be in the neighborhood of 2,000 units. Included will also be hose and appliances to equip these units.

FCDA fire engines will be allocated, on a dollar-matching basis, only to critical target areas, of which there are less than one hundred in the country. Communities outside these critical target areas will not be eligible to secure FCDA fire engines.

Other fire fighting equipment than fire engines will also be provided by the Civil Defense office to target areas on a dollar-matching basis.

Insofar as bomb shelters are concerned, the Administration is having extensive research done on the suitability of different types. Coupled with the data procured on resistance to atomic bomb attack on different types of buildings at the recent tests at Eniwetok, the original plans for air raid shelters may be completely changed. Whether community air raid shelters or shelters in individual buildings are finally chosen will depend upon what research and tests finally disclose.

Incidentally, no money has yet been appropriated for shelters.

Persistency Pays

Firemen and others who refused to quit resuscitation efforts, saved the life of a 13-year-old boy who was rescued from the bottom of a ten-foot mudhole after being under water for five minutes on June 28th, last.

The boy, Milton Jones, attempted to rescue his dog, which was swimming in the creek near Aquebogue, L. I., and sank beneath the surface. Two companions called for help, which came in the person of 46-year-old Benjamin White and his father, Washington White, who operate a clamming business on the creek. They sped a half mile to the scene and Benjamin dove and brought up the lad and towed him to shore.

The elder White used the old U. S. Life Saving Service technique of placing the victim over a rowboat to drain his lungs, after which Mrs. Robert D. Janroy, a nearby resident, took over, to apply prone pressure resuscitation.

Meanwhile the Riverhead Volunteeer Fire Department had been called from Riverhead, L. I. and arrived with an inhalator and resuscitator. They at once carried on and shortly the boy was fully revived by firemen under Chief Forrest A. Yeager, after which he was removed to Central Suffolk Hospital, Riverhead.

The elder White estimated that well over five minutes passed from the time he heard the distress cries until his son pulled the boy from the water. He said that the victim was stiff and not breathing when rescued.

World Wide Fire News

By Roi B. Woolley

Circus Fire Victim Still Unidentified

On July 6, 1951, Lt. Thomas Barber and Detective Edward Lowe of the Hartford, Conn., police placed flowers on the grave of "Little Miss 1565" as they have done every Christmas, Memorial Day and anniversary of the tragic Hartford, circus fire in which "Miss 1565" and 168 others died on July 6, 1944.

This year an answer to the seven-year old mystery of "Little Miss 1565" was offered by the two officers who have been working on the case ever since the fire, but who, despite their own and a nationwide effort to identify the one remaining unknown victim, had failed although her features were virtually unmarked by the tragedy.

"We've eliminated every possible answer except one," Lt. Barber reported. "The only one left that's reasonable is that some one identified the wrong body. The parents or other relatives of 1565 (the morgue number) stopped at the body of some one else's daughter and claimed it for their own. It's probable they never got to see 1565 at all."

Lt. Barber explained that the parents of the girl mistakenly identified by the relatives of 1565 probably assumed that one of the bodies of the children burned beyond recognition was their daughter.

* * *

More Hands Across the Border

Some 20 volunteer fire companies from the American side of the Canadian Border participated in a two-hour parade in June at Welland, Ont., across the Niagara River from the States, marking the second annual Firemen's Day sponsored by the Welland Volunteer Firemen's Club.

American and Canadian fire companies, totaling more than 40 in all, were judged separately by the four-man committee of judges. American winners were East Rochester, N. Y.; best appearing company and most men on parade; Stafford, N. Y., best drum corps and best appearing auxiliary; Alexander, N. Y., best band and best drum majorette; and Meadville, Pa., longest distance to parade. Among Canadian winners, the Protection Hose Co., of Thorold, was rated best appearing, and drum corps honors went to the Cayaga Legion Bugle Band.

* * *

Fresh From the News Ticker

When 45 cars of a fast Milwaukee freight train piled one atop another after the train was derailed near Panama, Ia., it was discovered five of the cars contained 16-inch Navy shells, which failed to explode: Who says there ain't no justice! . . . An explosion in an isolated building of an ordnance factory at Puriton, Eng., on June 29, killed six men, all workers. . . . Six persons were killed and 60 injured when a Hungarian Danube passenger ship sank after a mysterious explosion. . . . Fire caused serious damage to the main engine room of the Danish freighter Gudrun Maersk, June 25, when she was about to sail from Baltimore for Chester, Pa. A three-alarm assignment of fire fighters fought a stubborn fire in the stifling below decks, using chemicals. Cause unknown.

Just off the press

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RCA RADIO CORPORATION of AMERICA

. . . Near Brantford, Ont., George Gammack nearly swallowed his Adam's apple. Then he looked again. It was an airplane waiting outside his gas station on busy No. 2 Highway. Dazed he went out. "Fill'er up" said the pilot, "I haven't got enough to get home." Mr. Gammack filled the tank and the pilot, apparently from the United States, took off down the highway. . . . One of London's largest fires since the war was controlled June 21, after it swept through the huge but empty British Railways Spitalfields freight depot. Press agencies reported the entire London fire brigade was mobilized to fight the fire in the east end of the city. . . . They do it in other countries, too. In Luenenberg, Germany, "racing to answer a fire alarm," firemen found two disappointed children, aged 4 and 8, staring at the alarm box. "We thought candy would come out," the tots explained. . . . Bonzo, Hollywood's favorite trained chimpanzee perished in a fire that destroyed the compound where he was caged between movie roles. A heater ignited the converted quonset hut in which he was quartered. Bonzo was alive when firemen pulled him out but although they worked over him for an hour, he died of suffocation. . . . Exploding gasoline burned seven men and wrecked an airplane-testing building at Hill Air Force Base, Utah, June 11. Smoke felled six others, including four airmen. Injured men were all civilians. . . . Fire broke out in the American consulate, Buenos Aires on June 24th, but was extinguished in 20 minutes by firemen. . . . An uncontrolled fire that raged for five hours on July 5 destroyed a 4-block section of the village of Cap Chat, Que., causing heavy damage. Fire started in general store at 8:00 A.M. spread rapidly to wreck 45 homes and buildings before local firemen and help from nearby towns pumping from the St. Lawrence River could confine it. . . . The first fully fireproof lifeboats built in this country and installed on the superliner United States have no wood or other combustible material in them. They are 36-ft. long and the hand-propelling levers, tillers and rudders are all of metal. . . . A flash-fire caused by ignition of gasoline on the surface of the water at Guantanamo Bay, Cuba, U. S. Naval Base pier in June took the lives of six men and injured 10. Four of the men drowned, the others died of burns, it is reported. No report of how the gasoline got on the water's surface. . . . At Churcham, Eng., Ronald Tarplee, 36, was killed by a television set he made. Members of his family were watching the screen while he tinkered with the aerial wires in the yard. Suddenly the picture blurred and there was an odor of burning. They saw Tarplee lying dead. It was said he had neglected to equip his aerial with proper insulating devices. . . . Airplane pilot Dale Herman sued the City of Topeka, Kans., for $450 because his plane hit a fireplug. Herman said his craft struck the hydrant on a takeoff at the Municipal Airport and he blamed officials for not warning him the plug was there.

* * *

Fear Sabotage May Top World War II

The Munitions Board fears the dangers of espionage and sabotage may be much greater in industry today than in World War II. "Communist infiltration of key industries in the United States is a known fact," the Board's report asserts: "Industry itself must take direct action to guard against espionage, sabotage and the hazards of enemy attack. More effective weapons of war have been developed."

The Board instructed industry to set up internal security systems in all plants having military contracts. The Board has prepared a manual on principles of plant protection, now available to industry which describes the methods of espionage and sabotage industry may be expected to encounter.

* * *

Red Sponsored Excursion Boat Blast Kills Many

An East-German excursion boat, overcrowded with 150 German orphans and school children bound for a communist-sponsored outing, exploded and burned July 5 in Berlin's Spree River with loss of lives variously estimated at from 40 to 70. Police reported another 80 or more persons had been hospitalized for burns or other injuries.

The state-run motorship, built to carry only 96 persons, was packed with approximately a fifty per cent overload.

East German Communist police and firemen barred reporters and delayed release of facts about the disaster. Witnesses said children died in pain and terror aboard the shattered vessel, which burned for two hours. Others were blown into the water and drowned. Most of the children were between 8 and 12 years of age.

Offers of assistance from nearby West

5200 Fire Chiefs visit Grand Rapids this month to attend the annual International Association of Fire Chiefs convention. We'd like to extend our sincere greetings to each and every I.A.F.C. member. This year's meeting—in view of the critical world situation—is an important one. Our best wishes for its success—and for your own continued success during the coming year.

To those of you who rely on BUCKEYE Fire Department Accessories year after year—our special thanks. You can be sure that products bearing our BUCKEYE trade mark will continue to deserve your high regard.

Buckeye
FIRE DEPARTMENT ACCESSORIES

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Berlin police and fire departments was refused and it is reported Communist fire and police units reached the scene thirty minutes after the blast. Meanwhile passersby and workmen from a dockyards plunged into the river and rescued some youngsters. A few children reached shore with their clothing still afire. Divers, who dredged the river later, brought up many bodies. The remains of twelve youngsters were found bunched in the stern of the ship.

* * *

The New Atom Bomb Is—Figuratively Speaking—

There has been much publicity about the "new atom bomb" and the new thermonuclear explosion tested at Eniwetok but the fire has been given only such "facts" as these statistical tidbits:

Hiroshima's bomb was 10 times greater than the Texas City nitrate ship explosion. The blast at Eniwetok was several times greater than Hiroshima.

Take ordinary sticks of dynamite such as are used in a hand grenade (if you can get 'em); stack them one on top of the other so that they encase a 17-story office building on a city block; that is the power of the Hiroshima explosion.

The Hiroshima blast was the equivalent of 20,000 tons of TNT, as measured in atomic energy. Supposing a bomb two and one-half times bigger than the Hiroshima bomb, you would have 100,000,000 pounds of TNT. Using the encased building yardstick, that would be a 60-story building on four city blocks.

"And the blast I witnessed at Eniwetok was greater than this," says Rep. F. Edward Hebert (D. La.) who was one of the observers at the latest Eniwetok test.

* * *

Fire and Death Continue To Celebrate the Fourth

Although most states have passed laws prohibiting the sale, storage or use of fireworks, and despite the local pre-Fourth warnings of fire chiefs, and others, against the use of fireworks, this year's holiday fireworks chalked up its grisly result of dead and more injured by explosions and fire. Although, fortunately, there were no conflagrations recorded, there were sufficient working fires to keep firemen on the jump, generally.

CLINTON, MO.—The July Fourth celebration was marred by the death of a 3-year-old girl, victim of an attempt by a group of boys to make their own firecrackers.

Virginia Belle O'Banion, daughter of Mrs. Ruby Elliott, died in a hospital seven hours after a keg containing black powder exploded in the back yard of the Elmer Elliott home. Four other children, including her 18-month-old brother, Johnny, were injured.

Virginia and her little brother were watching as three older boys packed powder into paper tubes and attached fuses. Two of the firecrackers had been completed when the powder went off after one of the boys reportedly threw a handful of powder on a near-by bon-fire. Boys reportedly obtained the 2-foot, 25-lb. keg of powder (about half full) from some youths in the Clinton business district.

BRIGHTON, MICH.—Samuel Genn, 54, was instantly killed on the night of the Fourth when a powerful skyrocket exploded at his throat, while he was operat-

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Emergency Car, seats 18 men, carries 400 gallons of water. Equipped with Fog Booster Pump.
FREDONIA VOL. FIRE DEPT.

Custom Built

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ing a Fourth of July fireworks display.

Some 500 spectators were looking on as Genn was setting off the fireworks at the Lakes Drive-in theatre and many saw him killed when a skyrocket, which he had placed in a mortar zoomed upward before he could step away, hit him in the throat and exploded.

CHICAGO, ILL.—Four children were burned fatally on the day after the Fourth, when sparklers with which they were playing set fire to a shed. William Brosnan, 9-year-old son of the city water commissioner of suburban North Chicago was killed outright. His body was found in the ashes of the shed. His sister, Kathleen, 10; Mary Jean Zorzy, 10, and Joan Renarb, 8, died a few hours later of burns. Another Brosnan child, Martin, was also critically burned.

Authorities said the children apparently set fire to some highly flammable material in the shed which burned quickly.

TORONTO, ONT.—Fireworks were blamed for causing a pre-Fourth fire which damaged four Walton st. homes and drove more than a score of persons into the street. The fire, starting in a narrow alleyway, spread to the houses. Boys were said to be throwing firecrackers around earlier in the evening.

AKRON, OHIO—When a defective "helicopter" firecracker went off in a rowboat on an artificial lake, the night of the Fourth, the boat was capsized by the three occupants, two of whom drowned.

The dead were Paul Bertsch, 45, vice-president and sales manager, the Rohner Paper Co. and Sylvia Strange, 13. The accident happened on the 100-acre estate of Mr. Bertsch's brother. Reports indicate that the two had rowed out on the lake to ignite the "helicopter" firecrackers, which zoom into the air and descend slowly on a propeller. One failed to rise and ricocheted about the boat. The three occupants scrambled about to escape it and capsized the craft.

HANOVER, MASS.—An inch-by-inch search of roads in two communities was conducted July 5 for four bottles containing highly dangerous explosives stolen from the National Fireworks Company plant in Hanover.

Five roads were blocked off and washed down by firemen in Hanover. The search spread to near-by Hanson for the explosive which is relatively harmless in liquid form but explodes on contact when it dries. State police said when dry "a quantity as small as a thumbnail could blow the limbs from a person."

Ten bottles were stolen on Sunday and Monday before the Fourth by five boys ranging from 13 to 16 years of age. Six were found smashed. The boys, who said they broke into the plant to get fireworks for a July 4th celebration were arraigned in Abington Juvenile Court.

HAVANA, CUBA.—The city had an unexpected fireworks display just before the Fourth when a bolt of lightning struck a fireworks factory on the city outskirts, setting it afire. Two men were killed and others suffered serious burns.

The Round Table

(*Continued from page 673*)

fire force must function in the same manner as the members of the regular fire fighting force who have been trained to do this work. In an emergency auxiliaries must also be provided to fill regular units as replacement members when need be.

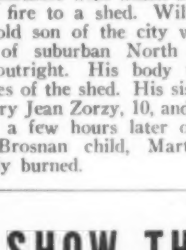
I do believe that in the event this type plan could be made workable it would stimulate enlistments in the auxiliary fire service and provide a substantial force of trained volunteers who could be called into action for emergency needs and be told what to do without unnecessary quibbling or fear, considering the fact that approximately 80% of all the damage resulting in both recent World Wars according to statistical reports indicate that it was caused by fire. This fact certainly tends to prove that fire defense is the first line of defense on the home front and must be considered without hesitation as to protection costs if ample security is to be maintained for defense purposes in the event of another war involvement which might cause far greater destruction by fire than ever before.

Everett Alarms Up; Losses Down

The Annual Report of fire losses and other pertinent statistics of the Everett Wash., Fire Department, Chief F. F. Schroeder, contains a foreword explaining to the people of Everett where the department stands in relation to civil defense, and how people can aid fire fighters when trouble comes. Chief Schroeder points out that although the department answered more alarms than the year before, losses are low in comparison.

SHOW THIS MOVIE FREE

SAFE EXIT



You can do a fine educational job in behalf of safety by showing "SAFE EXIT," a 20-minute, 16 mm, black and white sound movie, prepared for you—*absolutely free*—by the makers of Von Duprin Fire and Panic Exit Devices.

"SAFE EXIT" is a true public service film—not a product story at all—dramatically filmed and edited for the layman to understand—and benefit by. Use this film as the basis for a lively safety program in your plant.

You pay nothing—not even postage—to show "SAFE EXIT" in your community. Simply fill out and mail the handy booking request below.

VONNEGUT HARDWARE CO.
VON DUPRIN DIVISION
Indianapolis 9, Indiana Date.....

YES, we wish to show the 16 mm, sound, B & W movie, "SAFE EXIT."

Date Desired:..... or .....
(PLEASE LIST ALTERNATE)

Type of Audience:.....
(SCHOOL, LUNCHEON CLUB, TRAINING, ETC.)

Expected Attendance.....

We understand film is absolutely rent-free, postage paid.
We agree to return film the day following our showing.

Organization.....

Authorized by.....

Address.....

City..... State.....

Von Duprin PANIC DEVICES RESTORE SAFE EXIT

Fireman Shot by Thugs

Eugene E. Bergeron, 50, a member of the Milford, Conn., Fire Department, and part-time taxi driver, was shot five times in the body on the night of June 16 in Stratford while he was driving his cab.

Two passengers, Joseph Lundberg, 23, and his sister, Dorothy Ann Lundberg, 20, arrested later, were identified by Bergeron as his assailants. Bergeron is a patient in Bridgeport Hospital.

Joseph Lundberg's arrest came about after he was caught following the holdup of a Bridgeport lunchroom proprietor. During questioning by police he admitted that he pumped five bullets into Bergeron's body after robbing him of $12.25 in a secluded section of Stratford.

The climax to the Lundbergs desire for "easy money" came on June 16. Coming from a theater in Milford, Joseph and his sister hired Bergeron to take them to Bridgeport. The pair later ordered Bergeron to drive to Lordship, a residential section south of Stratford.

Leaving the cab in Stratford, Lundberg, according to his confession to police, turned suddenly and pulled the trigger of his revolver. Four shots struck Bergeron. The pair escaped and boarded a bus for Bridgeport. Bergeron made his way to a nearby house where he told his story. Police were notified and a wide search started for his assailant, with no clues to work on.

The holdup of the lunchroom proprietor solved the Bergeron shooting. After forcing the lunchroom owner to give him the money in the cash register, Lundberg ran from the place and hitchhiked a ride. Two teenage boys noted the license plates on the car. After locating the car owner, who told police where he took Lundgren, detectives went to the gunman's room in the Washington Hotel, Bridgeport, and arrested him. It was during questioning that he admitted the Bergeron shooting, along with other holdups.

In Stratford Town Court on June 30, Lundberg and his sister were bound over to Superior Court in bonds of $25,000. Bergeron is expected to recover.

TOM MAGNER.

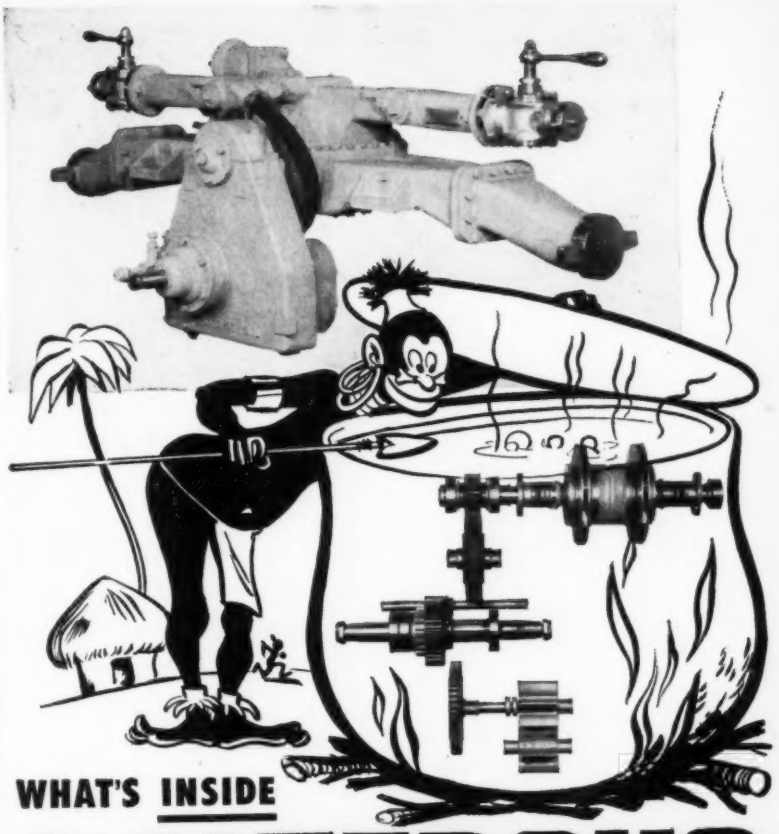
CO_2 Mobile Generator

A mobile-dioxide generator of the fuel oil type that increases production capacity from 156 to 300 lbs. per hour is reported currently undergoing technical tests at the Engineer Research and Development Laboratories, Fort Belvoir, Virginia.

Designed to operate efficiently at ambient temperatures ranging from —40 deg. to 130 deg., the plant is 12½ ft. high, nine ft. wide and 35 ft. long. Its gross weight of 43,000 lbs. is borne by 12.00 x 20 pneumatic tires in dual arrangement.

Commercial plants of the same capacity weigh about twice as much and occupy roughly twice as much space, compressed gas engineers at the Laboratories point out. The new generator is said to have all the essential features of large-scale CO_2 generating plants, despite sharp military limitations on weight and dimensions.

Uses for the gas it produces include fire-fighting, therapeutics, etc. A second mobile generator of the same specifications is expected at the laboratories shortly.



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Whether it's a stew kettle or a fire pump . . . what's *inside* is what counts! And when you ask what's inside a fire pump, you're entitled to answers that are more than generalities, vague claims and loose specifications. You've a right to know what materials were used . . . how they were used...how much engineering "know-how" went into the pump, whether the design was aimed at low cost or high quality.

Look inside of a WATEROUS Fire Pump—see the outstanding accessibility, the fully protected antifriction bearings located outside the pumping chamber—the horizontally split two-piece casing, the hardened steel gears, all bronze accessories. See that your new pumper is WATEROUS equipped and you will be assured of years of *dependable* service.

WATEROUS fire pumps are the standard of several well known fire apparatus manufacturers.

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Among the Buffs

By Paul C. Ditzel

After a five week lull during which Chicago fire alarm registers failed to spell out a multiple alarm, there has been some flurry on the local front.

It started with a two-bagger in a young businesswomen's home on the northside which I was able to take in on a hot summer afternoon. The blaze was spectacular from more than one standpoint: young lovelies between 21 and 25 years old, wearing something less than bunker boots and turnout coats streamed past the firemen.

The fire was followed by a five-alarmer in a northside Catholic church which I also turned out for, and several days later a 3-11 alarm in a southside taxpayer. One fireman was killed when the place blew up. Fifty future fire buffs were injured when they were hit by flying glass.

First returns from assorted still alarm precincts show at least 25 persons read the first buff column.

Have received several interesting letters from A. "Smokestack" Hardy of 615 N. Carrollton ave., Baltimore, Md. "Smokestack" probably can claim the title of No. 1 Negro fire buff. In one long letter he wrote, during which Box 258 rang in ("Smokestack" responds on the second alarm) he lamented the old days of the horse-drawn steamers.

"Smokestack" is now deputy chief of the Box S.H.C. Fire Association Club, Inc., which claims to be the only Negro fire club in the United States. "Smokestack" collects postcard pictures of fire equipment and is particularly interested in any pictures of Negro firemen and equipment to which they are attached. He says at least 65 cities have colored firemen.

"Smokestack" also sent along a picture of himself he says was taken after working on a 3-3 alarm Baltimore fire. "I'm supposed to be burnt, scorched and toasted," says Smokestack. "Just get me in the proximity of a good looking 'High Brown' nurse and I'll bounce past normal in ¼ second," he says.

Speaking of pictures a number of letters I received asked information on where to secure photos of fire equipment. Lt. Harold W. Gleason, Jr., Headquarters 9th Infantry Division, AG Administrative section, Fort Dix, New Jersey, wants pictures of equipment made between 1910 and 1930.

William N. Schwartz, 63 New Jersey ave., Ocean Grove, New Jersey, says he has about 3,000 negatives he collected since 1940 and has about 5,000 pictures in his collection of all types and periods of fire apparatus construction. W. A. McDonnell, 1531 Switzer ave., St. Louis 21, Missouri, is a photographer and has many old time fire photos.

Down Kansas City, Missouri, way is T. S. Jewett, Jr., of 6442 McGee st., who is collecting books concerning fire departments of United States' cities. "Back in the 70's, 80's and 90's and the 1900's there were many of these books published by individual writers, but most of the time under the auspices of the local firemen's relief and benefit associations," says Buff Jewett. He says he has 30 books now and wants more.

Correspondent Schwartz tips me off, along with others who saw the new column, to a new national fire buffs magazine. He says the "National Fire Fan Register" started publication in January. It is edited by Donald M. Shelburne and Walter F. Pittman whose address is 7614½ Seville ave., Huntington Park, Calif.

The magazine has grown to 16 pages and is eight by five inches in size. The July issue was scheduled to reach 8½ by 11 inches. Subscription rate is $1.50 a year.

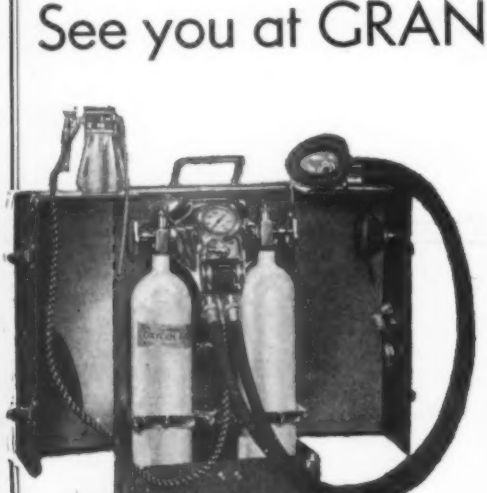
Earl Nolan, a Quincy, Ill., Herald-Whig editorial staffer, says he got started chasing fires through his pet dog, "Rags." Firemen at stations near Earl's home would give Earl a call when rats started to pester horses in the steamer days. Earl and his star rat terrier would go to the fire station and the rat problem would soon be under control.

"The shiny engines fascinated me, and as I grew older I began to ride them. One of the stations near my home was at the bottom of a rather steep hill. The horses would be walked up the hill with their heavy hose cart and when the rig passed my corner I'd flip the back end," Earl writes.

Striking it out again this month, I'll hope to see many of you buffs at the International Association of Fire Chiefs convention in Grand Rapids. In the meantime please keep me in mind for news of fire buffs. My home station is at 589 Wellington ave., Chicago 14, and my telephone number is Eastgate 7-5796, if you're in town and want to swap fire stories between trains.

CHIEF,

See you at GRAND RAPIDS!



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CHECK WITH US YOUR CIVIL DEFENSE PLANS ON RESUSCITATORS—PORTABLE IRON LUNGS—COLLAPSI COTS—ETC. IT WILL PAY YOU DIVIDENDS!

If you can't be there, write us today!

STEPHENSON CORPORATION
RED BANK NEW JERSEY

New Orleans Civil Defense

(*Continued from Page 639*)

According to Chief Dey, New Orleans can move engines to the west of his city to complete the movement into Texas. New Orlean's pumpers could also be sent east, to Mobile, Ala., 141 miles from New Orleans, assuming that Mobile had dispatched engines to the cities on the southwestern seaboard as far as Jacksonville, Fla., or probably on the South Atlantic as far as Savannah, Ga. The staff's conception of this mutual aid, the Chief says, is that it is similar to but slightly different from the ordinary collegiate track relay used in athletics. Chief Dey sums it this way: "We feel here in New Orleans that each city will have its own particular problem in that a seaport town, such as New Orleans, would be quite different from an island town, therefore a slight variation in the training of the pump operators would be necessary."

F. B. I. Probes Odd Death in Mysterious Florida Fire

St. Petersburg, Fla., Fire and Police authorities were reported at a loss early in July to explain how Mrs. Mary Hardy Reeser, 67, apparently burned to death. So baffling is the case that FBI laboratory experts have been called in to help find a clew to the mystery.

All the firemen found when they broke into Mrs. Reeser's slightly damaged apartment, July 2, was a charred skull, shrunken to the size of a teacup, a piece of backbone and a suede shoe for the left foot. These remains were lying on the floor before an overstuffed chair that had burned down to the springs.

Local funeral directors said it would require a constant 2500 degree fire for three to four hours to consume a body as completely as that found in the apartment.

However, strangely enough, the one room apartment itself was barely damaged. Only the electric light switches were melted. Below them, wall plug electric outlets were in good working order. Paint on the wall behind the burned chair was unmarked. A stack of newspapers atop a water heater standing near the chair was unscorched; so were sheets lying on a day bed five feet from the chair.

Fire Chief Claud Nesbit discounted the theory that lightning might have struck Mrs. Reeser. All electricity in the apartment except for the switches, was in perfect working order, he said. An electric clock was stopped at 4:20, but worked perfectly when plugged into another circuit.

Mrs. Carpenter, landlady of the Allamanda Apartments, discovered something was wrong and called firemen when she went to Mrs. Reeser's apartment to deliver a telegram at 8:27 A.M. She said the door handle was so hot she couldn't hold it.

Mrs. Carpenter said she had smelled smoke earlier when she arose to get the paper, but thought it came from a defective water pump which she turned off.

Following local investigations, ashes of the body and other articles were sent to Washington for FBI examination. A coroner's death certificate states: "Death was by fire, from undetermined cause."

Insert Shows Floodlight Elevator in Raised Operating Position

EMERGENCY FLOODLIGHT TRUCKS

DeLuxe CUSTOM BUILT EQUIPMENT with or without the FLOODLIGHTING FEATURE, All Steel Enclosed

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THE SENIOR (3 ton Chassis, 175" Wheel Base)

THE STANDARD (2 ton Chassis, 158" Wheel base)

THE NEW X-L ECONOMY UNIT (1½ ton Chassis, 158" Wheel Base

All Models carry complete First Aid and Salvage Equipment as required by the customer.

The SENIOR MODEL—most suitable for cities, is equipped with exterior and interior compartments and seats for the crew. Five built for the City of New York; one with portable floodlighting equipment and four with 10KW power take off driven generator and elevator controlled floodlights. Three built for the City of Philadelphia, with 10KW elevator controlled floodlights.

The STANDARD MODEL—for the average Fire Department, with or without elevator floodlights, equipped with exterior compartments, and the interior equipped with mounted stretchers and seats for the crew. This model in service in many Fire Departments for over 10 years.

The NEW X-L MODEL—provides maximum facilities at minimum cost.

Write for detailed construction and electrical specifications, photographs and prices and state your requirements.

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HALE Type FZZ

Fine for Relaying to Major Pumper

The Hale Type FZZ portable fire pumping unit pictured at right can be easily carried by two men to source of water which truck cannot reach, for refilling booster tank or for fighting fire direct. Unit is also available mounted on two truck-type wheels or on rubber-cushioned steel channels.

Capacity of FZZ is 60 G.P.M. at 90 lbs. pressure; 150 G.P.M. at 30 lbs. pressure. Provides two capable fire streams through 1½-inch hose lines, using ½-inch nozzles.

Note: Discharge Adapter can be supplied for use with 2½-inch fire hose.

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FIRE PUMPS IN ALL STANDARD CAPACITIES

The best nozzles are needed for effective fire control

When You Need Shut-Off Nozzles You Need the

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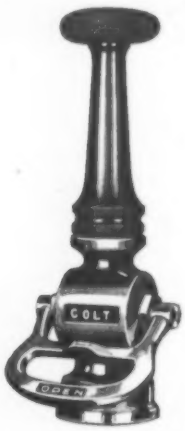

Our Thirty-nine Years' Experience in Manufacturing Nozzles cannot be denied, and backed by a Five-Year Guarantee on each Nozzle, you Obtain only the Best when you get a *COLT*.

Playpipes, Siamese—Plain or with Shut-Offs, Hydrant Gate Valves, 1", 1½", 2½" Quarter-Turn Shut-Off Single Valves, Water Thiefs. All types Brass Hose Connections.

Our Facilities for Making Up Your Special Items Are Unexcelled.

Your Jobber or Dealer Can Supply You with Guaranteed Colt Shut-Off Nozzles and Allied Brass Products.

Make Your Truck a Completed Fire Weapon with

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Fire Protection Equipment

39 Years in Fire Protection

EXCELSIOR BRASS MFG. CO.
3452-54 N. Knox Avenue
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BRITISH INDUSTRY DEVELOPING OWN CIVIL DEFENCE PROGRAM

Big Firms Only are Included in Arrangements at Present

By Arthur V. Pendragon

EVER since the British Government announced its plans for civil defence in the event of war, industrial and commercial interests upon whom depends the output of the materials required to meet aggression, have been bitterly critical of the lack of guidance as to what their contributions should be to the overall scheme. Because recruits for the local authority set-up in England, Scotland and Wales have not been coming forward (only 137,396 men and women have joined the Civil Defense Corps since November 15, 1949), the Government have been loath to announce an industrial civil defence scheme. Most Britishers prefer to do civil defence training in company of the people from their own offices and factories rather than in the bigger, more impersonal formations under local authority control, but hitherto the official view has been that a plan for industrial civil defence might split preferences thus reducing still further the trickle of recruits to the Civil Defence Corps.

Now however, a civil defence plan for industry and commerce has been sent to certain industries and to all local authorities. It is similar to that already in being for towns and cities. Establishments employing 200 or more people have been told to appoint a civil defence officer, either whole- or part-time, and make him responsible for recruiting and training wardens, fire watchers and other key civil defence workers. Firms employing less than 200, as well as those in the not-so-vulnerable areas, are asked to get their workers enlisted in local authority civil defence.

Training equipment is being made available to industry and commerce by the Home Office, the department of government responsible for civil defence in England and Wales, and by the Scottish Home Department. Expenses incurred in connection with the scheme are expected to be allowed to rank against income tax payments as necessary expenditure. Vacancies for industrial Civil Defence Officers will also be open at the Government training schools. Medical sections and control arrangements will be based on the normal industrial set-up for these services, but enlarged as necessary in conjunction with the local authority concerned. Throughout the plan, the aim has been to avoid overlapping and to weld both industrial and local authority civil defence services into one organization, while allowing each part its distinctive features and management.

Likely bone of contention in the new arrangements is the position of industrial Fire Brigades of which there are upwards of 1,000 in the United Kingdom. The Government does not favor the creation of Brigades for industrial wartime fire protection except in certain cases, and it is anxious that existing Brigades shall associate with the local public Fire Services so as to form a reserve of trained men ready with appliances for duty in specified areas outside the immediate perimeter of their plants.* The present idea is that the industrial Brigades and public fire chiefs should get together on association schemes, but industrial firemen are dubious of this proposal, for in the last war similar arrangements sometimes operated to their disadvantage. They do not again want to be looked on as the "poor boys" of the Service, but rightly expect status equal to that of public firemen with due respect for their specialized knowledge of particular hazards and processes.

Though the Government's planners visualize an industrial Civil Defence organization built largely round a works Fire Brigade, where one exists, they also take the view that a force of people should be trained in elementary fire fighting and equipped with light motor or manual pumps; they would then act as fire watchers. In the event of war, this is likely to mean that every business house will have its quota of watchers capable of dealing with incendiary, oil and fire bombs, though what they will be expected to do should atom bombardment take place, no one yet really knows.

Quite obviously there will be criticism of the Government plan, and many difficulties to be overcome, but in general the scheme, drawn up in conjunction with employers' organizations, trade unions and local authorities, is well balanced. It should have been announced earlier, but fortunately British industry has not had all its enterprise beaten out by socialism, and a number of firms have already commenced organizing their own civil defences. The technical press in Britain, notably *Fire Protection*, has taken a leading part in bringing this activity to the attention of the public.

FOOTNOTE: The Government says they are not making the civil defence plan for industry compulsory. For the present it is voluntary, but undoubtedly British industry will regard it as a "Must."

*Strength of the British Auxiliary Fire service at the end of May was 9,864 men and women.

New York Losses Down

During 1950 the New York Fire Department answered 62,021 alarms of which 17,651 were false, compared with 61,448 alarms in 1949. More than 99.9% of the 44,370 fires were confined to the area of involvement when fire department units arrived. There were 37 fewer fires than in 1949 and the property loss in 1950 was less by $737,560 than that of 1949. There were 254 second or greater alarms.

The 1951 Fire Prevention Week Poster

Prominent in the promotional material for the 1951 Fire Prevention Week drive is this attractive poster selected by the National Board of Fire Underwriters to focus special attention on fire safety in the home.

The poster is available to local groups throughout the country. It measures 17 x 22 inches and is in color. It will be distributed free of charge to fire departments, local safety committees, insurance boards, chamber of commerces, schools, churches, safety councils and other groups.

Annual Reports Received

Lima, Ohio, Publishes Monthly Reports

The Lima, Ohio, Fire Department, Chief Walter L. Hydaker, publishes a simple but comprehensive monthly report of operations. Thus, for February one notes, among other details, the Department responded to 46 alarms, worked 21 hrs. 19 mins. at fires, and traveled 276½ miles responding to and returning from calls. These monthly reports are bound between covers to comprise the annual Report of the Fire Department.

* * *

Manila Issues Fire Prevention Promotion

Those who know fire chief Cipriano Cruz, of the Manila (Philippine Islands) Fire Department, have watched with interest his adoption of progressive fire prevention and fire protetion ideas developed "stateside." Thus, Fire Prevention Week takes on a very serious aspect in Manila each year.

For the sixth year, Chief Cruz has highlighted "Fire Prevention Week" drive with an unusual piece of printed promotion entitled "Don't Let Fire Lick You." In Manila, F. P. Week is celebrated in March. Every day from March 1 to 7th inclusive, saw some special activity. There was "clean-up day," "City Government Day," "Church Day," "School F. P. Day" and so on.

The promotional booklet, containing messages by President Quirino, Mayor Manuel de la Fuente, Chief Cruz and

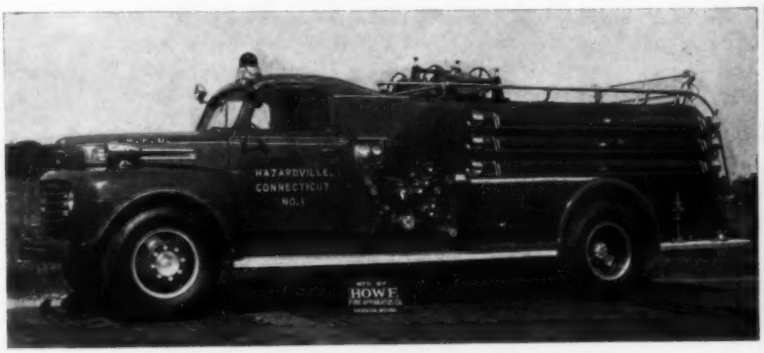
First Choice of Firemen Everywhere
POWERFUL LIGHT
WHEN IT'S NEEDED—WHERE IT'S NEEDED
Big Beam
PORTABLE ELECTRIC HAND LAMPS

Big Beam Model No. 211
Throws powerful 1500-foot beam or bright spread light. 5" chrome lamphead. Main and auxiliary bulbs. Pressure-type battery contacts. Light weight, compact, and weatherproof. Operates on one or two standard lantern batteries. Many accessories, such as hold-down bracket, carrying strap, lens guard, colored lens, etc.

Big Beam Model No. 700-A
Designed especially for firemen as a heavy-duty general purpose hand lamp. Gives powerful 2000-foot beam or bright spread light. 6" chrome adjustable lamphead. Strong two-piece hinged 20-gauge steel battery case with waterproof base. Trouble-free toggle switch. Simple battery contacts. Operates on four No. 6 dry-cell batteries. Many accessories.

Write for descriptive folder and prices on these and other Big Beam dry-cell and storage battery models.

U-C LITE MANUFACTURING CO.
1041 West Hubbard Street, Chicago 22, Illinois



HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary and Piston Pumps Supplied
HOWE FIRE APPARATUS CO., 1402 W. 22nd St., Anderson, Indiana

DEALERS! Make Over 100% Profit Selling New Low Priced *Automatic* Home Fire Alarm System

FIRE-LITE

HOME FIRE ALARM SYSTEM
with U.L. APPROVED Rate-of-Rise Detectors

Every Homeowner is a Prospect!

Show folks a low cost way to safeguard lives and property with FIRE-LITE and you'll make big profits! FIRE-LITE automatically and instantly detects fires, sounds a shrill, loud alarm, arouses family before fire gains headway.

We supply you with a demonstrator alarm, tested sales plan and an illustrated book that clinches sales for you! Every man wants to protect the lives of his family and his home. You can easily sell that man a low cost FIRE-LITE Home Alarm.

FIREMEN!
Make extra money in spare time selling FIRE-LITE Home Alarm Systems.

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Approved for FHA Financing

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Write Today
for a Dealership, Complete Information and Prices.

FIRE-LITE ALARMS • 174 Shelton Ave., New Haven, Conn.
**Member National Fire Protection Association*

Specify
F.A.E.

HOSE REELS

For any size hose—any capacity—up to 800 lb. pressure. The ideal reel for high-pressure fog lines. The best reel you can buy for either new or old apparatus.

Contracting drum made with steel channels and oak fillers to protect hose. Swivel water-tight connection requires no packing.

Completely free waterway. Free-running electric rewind or manual as desired. Chrome finish.

Your new apparatus should always have the best reel possible—
Specify F.A.E. Hose Reels.

FAE CORPORATION, CLAYTON, N.Y.

the President of the Municipal Board, Andras Sta. Maria, includes articles on fire and fire prevention in different types of occupancies. The booklet concludes with general suggestions on how to put out fires. Much of the excellent material in the booklet was taken from Fire Prevention campaign material published in this country.

What's Burning

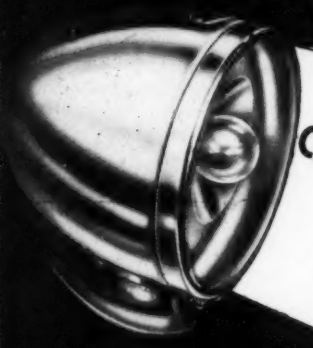
THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of July, 1951.

Month Ending July 31, 1951

Rison, Ark.—The Moore Hardware & Furniture Co.; adj.; whse.; adj. V. O. Thomasson Store and a small retail grocery, damaged.
Hanford, Cal.—Bldg. supply whse. of Central Lumber Co. destroyed.
Covina, Cal.—California Fruit Growers Exchange destroyed.
Maryville, Cal.—Speckert Lumber Co., mail mill and green lumber conveyor, destroyed.
Palo Cedro, Cal.—Sawmill of Our Corporation destroyed.
Reedley, Cal.—Two large packing shed bldgs. owned by Greenberg Packing Co. and Madsen Co. destroyed.
San Francisco, Cal.—A four-story, 68 unit apt. bldg. destroyed.
Wilmington, Cal.—Union Oil Co. tank farm destroyed.
Pueblo, Colo.—Colorado State Hospital damaged.
Blakely, Ga.—Holman Mule Co., Blakely Masonic Hall and Blakely Telephone Co. destroyed.
Mountain View, Ga.—Mountain View Grammar School destroyed.
Chicago, Ill.—Two story bldg. housing stores and American Legion Hall at 47th Street and Ashland avenue, damaged. Explosion.
Bloomington, Ind.—United Presbyterian Church destroyed.
Indianapolis, Ind.—Allison Jet Engine Plt., div. of Genl. Motors, damaged.
South Bend, Ind.—Plt. No. 4 annex of Bendix Products Div. of Bendix Aviation Corp., damaged. Welding torch.
Terre Haute, Ind.—Union Laundry destroyed.
Elgin, Ia.—Hellum Produce Co. and Opera House destroyed.
Manson, Ia.—Elevator owned by Farmers Co-operative Elevator Co. destroyed.
Sioux City, Ia.—Bldg. housing Electric Engineering Co., barber shop, commercial refrigeration fixture store, tavern and furniture store, destroyed.
Spencer, Ia.—Walmer's Bakery and Odd Fellows hall; adj. Gragin's dress shop, Feldman's dept. store, damaged.
Kansas City, Kans.—Gasoline storage tanks of Socony Vacuum Oil Co. and Phillips Petroleum Co.; also Holland Machine Co. destroyed. Flood waters.
Bowling Green, Ky.—J. E. Bohannon Tobacco Co. whse. destroyed.
Green, Me.—Garage and storage shed of Saunders Orchard damaged. Backfire from apple sprayer.
East Boston, Mass.—National Guard Hangar at Logan Airport, damaged.
Hingham, Mass.—Great Atlantic & Pacific Tea Co. supermarket damaged.
Scituate, Mass.—Auxiliary Schooner Yacht "Sara J" of John F. Davis, destroyed. Gasoline fumes.
Chesaning, Mich.—Chesaning Pipe Co. plt. destroyed.
Grand Haven, Mich.—Jac Jungle tavern and dance hall destroyed.
Inlay City, Mich.—Branch of Lapeer County Co-operatives, destroyed.
North Jackson, Miss.—Junior High School bldg. destroyed.
St. Louis, Mo.—Whse. occupied by Inter-City Mfg. Co., notebook mfrs., and by La Mear Hauling Co., damaged.
Bozeman, Mont.—Bozeman livestock yds., owned by Malcolm Story, destroyed.
Belmar, N. J.—Acme Market damaged.
Newark, N. J.—Propane storage tank farm of Warren Maritime Petroleum Corp., heavily damaged; International Printing Ink plt. also damaged.
Newark, N. J.—Natl. Box & Lumber Co. bldg. destroyed.
Nutley, N. J.—Barn on Nutley Dairy farm destroyed.
Springfield, N. J.—Howard Johnson restaurant, Route 29, damaged.
Arcade, N. Y.—Plt. of GLF Milling Co. destroyed. Spontaneous ignition.

Colonie, N. Y.—Town Hall destroyed.
Ithaca, N. Y.—Williams Hall, girls' dormitory, Ithaca College, destroyed.
Mamaroneck, N. Y.—The A. Ajello & Co. candle-making plt. damaged. The 16-foot candle molded for the United Nations as an everlasting peace emblem, destroyed.
Syracuse, N. Y.—Food whse. destroyed.
Utica, N. Y.—Ogden Grain Co. storage elevator, damaged.
Waterford, N. Y.—Dairy barn on farm of Albert Shulusky, destroyed. Short circuit in haymow.
Dunn, N. C.—The Dunn Evergreen Nursery plt. damaged. Overheated electric motor.
LaGrande, N. C.—Five-room tobacco barn on farm of Albert Farmer, R.F.D. 1 and 1,000 sticks of tobacco, destroyed.
Cleveland, Ohio—Office and garage of Grabler Mfg. Co. damaged.
Cleveland, Ohio—National Malleable & Steel Co. plt. damaged. Broken oil line.
Middleburg Heights, Ohio—A & P Supermarket damaged. Overheated air compressor motor.
Newark, Ohio—Paper plt. of Newark Division of Ledgury Industries, Inc., destroyed.
New Bavaria, Ohio—Farmers' Elevator Grain & Supply Assn., Inc., Nickel Plate Railroad tracks, destroyed.
Shaker Heights, Ohio—A & P food store destroyed.
Toledo, Ohio—Pure Oil Co. refinery, damaged.
Washington Court House, Ohio—Fayette County Cooperative Assn. grain elevator destroyed.
West Jefferson Ohio—West Jefferson High School damaged.
Bend, Ore.—Oregon Trail Furniture Mfg. Shop destroyed.
Eugene, Ore.—Rickini Lumber plt., loading docks, machine plt., six freight cars of Southern Pacific, destroyed. Welding machine.
Eugene, Ore.—Eugene Shingle Co. destroyed.
Gaston, Ore.—Larkins Lumber Co. mill No. 1 damaged.
Grand Ronde, Ore.—Chuck's Cafe, gas station, destroyed.
Oak Grove, Ore.—West Food Co. destroyed. Spontaneous ignition.
Portland, Ore.—Lombard Tire Co., Farmers Box Co. and Tonkin Motor Co., Butler Auto Paint Co., destroyed.
Portland, Ore.—Rodda Paint Mfg. Co. plt. damaged.
Portland, Ore.—Chapman Grade School damaged.
Cheltenham, Pa.—Hoffman Tape Mill damaged.
New Holland, Pa.—Auto Sales & Service Shop of B. Z. Mellinger. damaged. Defective wiring.
Paoli, Pa.—Pyroxylin Products, Inc. plt. damaged.
Philadelphia, Pa.—Boathouse and four crash boats at Philadelphia Naval Base, destroyed.
Warren, R. I.—YD Restaurant damaged.
Charleston, S. C.—Dock frontage and whse., Middleton's Wharf, Cooper River, owned by Cheshire Sullivan Candy Corp.
Pierre, S. D.—Maintenance shop at Pierre airport owned by Ice Flying Service, destroyed. Sparks from welding torch.
Lenoir City, Tenn.—Broadway Milling Co. plt. destroyed.
Springfield, Tenn.—Dibrell Bros. tobacco factory destroyed.
Bensley, Tex.—Barn on Minoborya Farm, two miles out on State Route 10, destroyed.
Mineral Wells, Tex.—The Cecil Young Motor Co. and 21 automobiles destroyed.
Cedar City, Utah—Cedar City garage destroyed.
Salt Lake City, Utah—Wagstaff Oil Co. shops damaged.
Danville, Va.—Pointer's Men's Shop destroyed: adj. jewelry and confectionery stores, damaged.
Gretna, Va.—Grade school bldg. of Northside Training School destroyed.
Lynchburg, Va.—A. L. Wright Co., plumbing and heating contractors, damaged.
Winchester, Va.—Three bldgs., mfg., shipping and office of Winchester Cooperage Co., box-making plt., destroyed.
Chehalis, Wash.—Two-by-Four Lumber Co. plt. destroyed.
Dishman, Wash.—Geesey's Trading Co., Merric Davis Tire Shop and Safeway store destroyed.
Parkersburg, W. Va.—United Dispatch, Inc. freight terminal & whse. and nine trailer trucks, destroyed. Vulcan Welding Co. damaged.
Viola, Wis.—Whse. of 12 carloads of cheese, owned by John Kirkpatrick, Inc., destroyed Lightning.
Delia, Alta.—Elevator annex and 80,000 bushels of grain owned by United Grain Growers Ltd., destroyed.
Chatham, Ont.—Downtown business section, Gordon Wright Men's Store, Kent Grill and several apts., damaged.
Toronto, Ont.—S. Barber & Sons, importers and exporters of barrels and drums, damaged. Short circuit.
Cape Chat, Que.—Lumber village, forty dwellings and business establishments. Boulevard Perron Hotel, destroyed.
Lachine, Que.—Delmar Chemical Co. plt. near here, damaged.
Pointe Calument, Que.—Chateau Du Lac, resort hotel, destroyed.

The New Carpenter
WIG-WAG REDHEAD
FOR FIRE, POLICE AND EMERGENCY CARS AND TRUCKS, AIRPLANES . . .



CLEARS YOUR WAY FOR SAFER, FASTER, QUIETER RUNS
The oscillating beam of this powerful, flashing WARNING LIGHT
CLEARS THE WAY . . . and fast!
Range of 1000-1500 feet and a sweep from side to side
FAR, FAR AHEAD
WARNS CARS APPROACHING AROUND INTERSECTIONS

TYPE WW6 (Illustrated). Flashing and Oscillating—6" diameter. Also Oscillating only, 6" diameter.
TYPE WW8. Flashing and Oscillating, 8" diameter. Oscillating only, 8" diam.
TYPE 166. Same as above. Flashing but without Oscillator. 3800 foot range. 6" diameter.
TYPE 168. Same as 166. 8" diameter and 4500 foot range.
TYPE F'N'A (Fore'N'Aft). Same as 166 except drum shaped with two reflectors and two red lenses, one facing forward and one toward rear, flashing.
6 volt units will be shipped unless 12 volt specified. Specify other color if red is not wanted.

Type F-5 High Power Portalite

Finest Dry-Battery Light made. Clamps on 7½ volt dry battery pack.
Moderate worklight for 24 consecutive hours or a powerful mile-range searchlight for 8-10 hours (much longer if used intermittently).
Also available with rugged cast aluminum case in Duro-Satin finish to hold battery (Type BF-5).

Type RA Red 360° Flashing Light For Cars

Cylindrical Fresnel Lens
Approved by Nat'l. Highway Comm. for work and repair cars and trucks, Fire and Police cars, public utility vehicles.
3¼ in. lens with high quality built-in flasher.
3¼ in. lens without flasher.
4½ in. lens with high quality built-in flasher.
4½ in. lens without flasher.

CARPENTER MANUFACTURING COMPANY
200 MASTER-LIGHT BLDG. BOSTON—45—SOMERVILLE, MASS.
"Master-Light Makers for 34 Years"

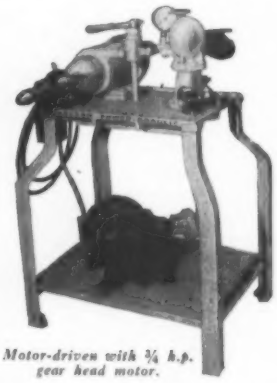
Famous Fireman Connors-Rescue 2-Boston, says
"Give me the HALLIGAN TOOL"
10 tools in one — does everything — everywhere

AWARDED
Certificate of Merit, Boston Fire Fighters Local 718 IAFF. Awarded to Ch. Hugh A. Halligan, Fire Department, City of N. Y.

ONE MAN—
alone—for
Ventilation, forcible entry, brick walls, roofs, floors, trim, ceilings. All inside or outside work.

TESTIMONIALS never awarded any other tool!
BOSTON—"Open Up Man"—"works alone—reduces injury."
KEARNY, N. J.—"Finest implement in fire service."
UNION CITY, N. J.—"Best all-round tool in fire service."
SYRACUSE, N. Y.—"Does everything claimed—and MORE."
A **MUST** for every piece of apparatus, police cars, crash trucks, emergency cars, piers, ships, etc.
GET AT IT—IN A HURRY: **Prevent explosions: Save time—life and property. "Take one on trial."**
ORDER NOW—a BARGAIN at $36 each
M. A. HALLIGAN, 1505 Metropolitan Ave., N. Y. 62, N. Y.

DAYTON
POWER-DRAULIC
EXPANDER
OFFSETS
the increased price of fire hose



Motor-driven with ¾ h.p. gear head motor.

EXPANDS rings on couplings from ¾-inch chemical hose to 6-inch suction with positive expansion.

TESTS hose up to 700 lbs. pressure automatically. No manual labor required whatever.

REMOVES old rings from couplings without the use of hammer and chisel in half the time—optional attachment—easy, simple operation; larger, roomier work table, fully streamlined.

●

Write for descriptive literature

DAYTON
FIRE EQUIPMENT CO.
1242-48 W. 2ND ST.
DAYTON 7, OHIO

News of the Manufacturers

(*Continued from page 646*)

Kidde All-Purpose Fire Truck

A new self-contained, fire-fighting crash truck, equipped to attack any type of fire, was demonstrated recently by Walter Kidde & Company, Inc. The first crash truck built at the sole expense of a manufacturer, the Kidde all-purpose fire fighter was designed for airport fire emergencies and for municipal fire departments, with particular emphasis on civil defense fire-fighting problems.

The truck has built-in systems which deliver water, foam, fog, and carbon dioxide. It can dispense two tons of combined extinguishing agents per minute. Also classified as a Class A municipal pumper, the unit carries 1000 gallons of water, 1200 pounds of carbon dioxide in twelve 100 pound cylinders relayed in two banks of six each, and a large foam tank.

It has a 360-degree-swing turret nozzle above the cab for the delivery of water, foam, or fog and can throw a stream of water 150 feet. On the upper deck are four 150′ hoses mounted on reels, two for foam or water, and two for carbon dioxide.

A 500 gallon per minute pump, driven by the chassis drive shaft, serves the turret nozzle and hoses at high fluid pressures. A transfer valve controls pump delivery and provides flexibility in pressure and volume. The valve converts from parallel to series operation, giving large volume at normal pressure, or double pressure at half volume. The truck's pumping system also permits water to be drawn from independent sources such as city water mains, auxiliary tenders, or even a pond.

Optional auxiliary equipment on the Kidde truck includes an emergency 1500-watt portable generator to operate two 500 watt search and flood lights; one 20-ft. extension and one 12-ft. hook ladder; a 150-ft., half-inch carbon dioxide, booster hose reel; a 100-ft., three-quarter-inch, water booster hose reel; two pike poles, hand axes, crowbar, and assorted nozzles and applicators.

The truck is powered by a 162 H.P. motor, which drives it at speeds up to 50 miles per hour. It has an over-all length of 25′ 6″ is 8′ wide, 10½′ high, and weighs under 30,000 pounds.

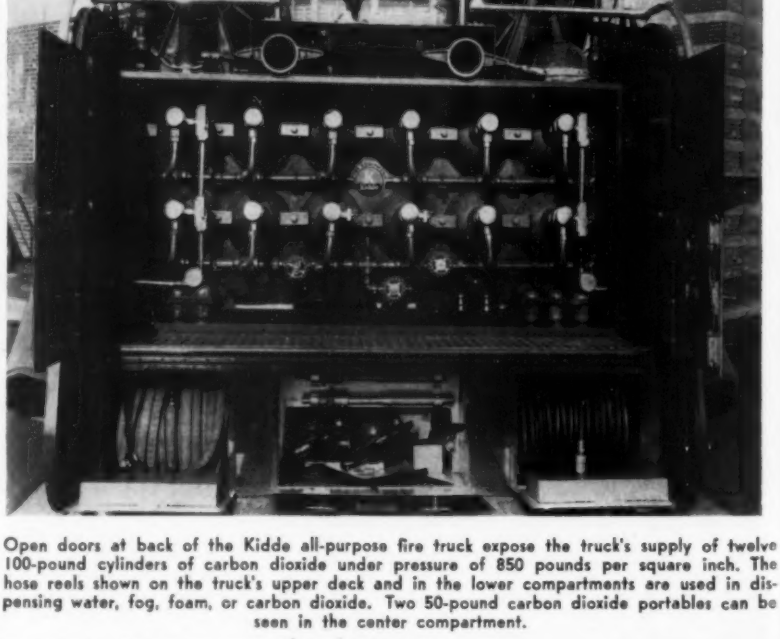
New Selective Dispatching Method

The first all-electronic selective dispatching method for two-way radio systems has been developed by the General Electric Commercial Equipment Division, at Syracuse, N. Y.

Ten group control unit for selective dispatching.

The method employs radically new equipment to permit "private" conversations between a dispatcher and an individual mobile unit, or a specific group of mobile units within a two-way radio system.

The new equipment allows separation of a system into as many as ten groups. All individuals in a group hear a dis-



Open doors at back of the Kidde all-purpose fire truck expose the truck's supply of twelve 100-pound cylinders of carbon dioxide under pressure of 850 pounds per square inch. The hose reels shown on the truck's upper deck and in the lower compartments are used in dispensing water, fog, foam, or carbon dioxide. Two 50-pound carbon dioxide portables can be seen in the center compartment.

patcher's call, but when the called party responds, all other receivers in the group remain silent.

A mobile operator, under the new method, would hear fewer calls not intended for his attention, reducing the number of callbacks and repeats, G-E engineers said.

An electronic tone sensitive device is attached to each receiver in the system. Each group of receivers is activated by a separate tone signal from the dispatcher's office.

The tone signals are within the 300-3000 cycle range, permitting their use over any circuit which will pass voice, including telephone line. The mobile receivers are activated within one-half second after the dispatcher pushes the control button.

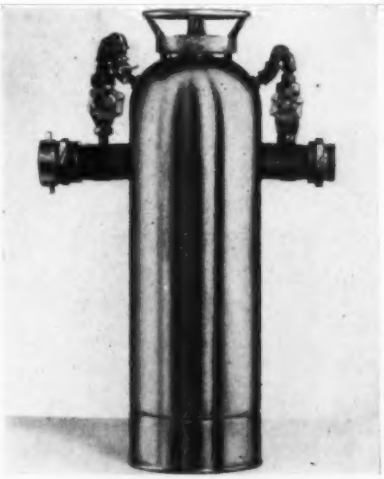
The equipment attached to the mobile unit has no moving parts or contacts. It uses standard receiving type tubes, and is directly applicable to any FM communications receiver. It is stable, and will stay on frequency indefinitely. No tuning or other adjustments are necessary with the new equipment, which is immediately applicable to either six or 12 volt power supply.

Reliability of the equipment is assured by more than adequate safety margin for wide variations in power supply voltages, signal input, and ambient temperature. The equipment is not subject to false triggering, even with greatly overmodulated signals.

The device to be attached to the mobile units is small, and weighs only three pounds.

New Proportioner for Wetting Agents

An interesting new piece of fire fighting equipment is a proportioner designed for use with wetting agents. Its special purpose is to simplify the use of agents

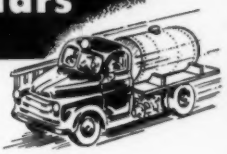


Inject-Ta-Line Wetting Agent Proportioner

by direct introduction into hose lines of controlled percentage concentrations for any type of fire. Important features of the proportioner include accurate operation and ability to be recharged under full pump pressure.

Instantaneously operated manual controls are said to permit variation in concentration at any point between one-half gallon to three gallons of wetting agent to each thousand gallons of water.

Build your own fire truck for a few hundred dollars



The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

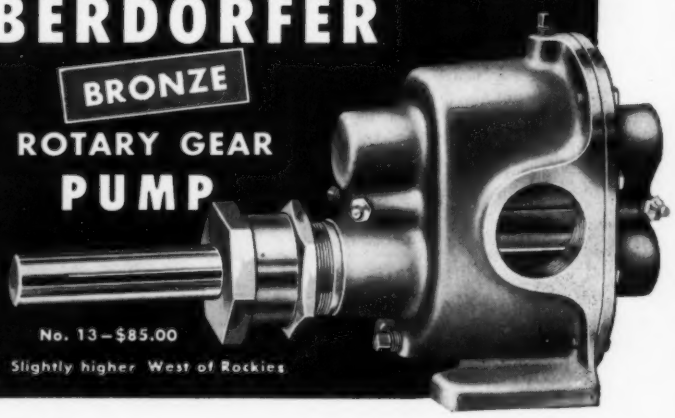
Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 125 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.

OBERDORFER

BRONZE

ROTARY GEAR PUMP



No. 13—$85.00

Slightly higher West of Rockies

PERFORMANCE DATA—No. 13 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	75

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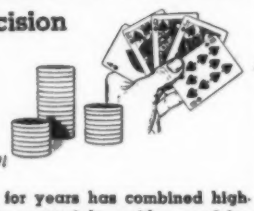

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Tests have proven that this is the effective requirement for all types of fires from Class A surface fires through solid stream impact foaming use on Class B fires.

This new product has been developed by the Solvoid Division of American Marine Paint Company, 311 California Street, San Francisco. According to H. W. Hosmer of Solvoid, the device has been given the descriptive name of Inject-ta-line proportioner. By direct introduction into 1 and 1½ inch hose lines the usefulness of the agent is greatly increased as it eliminates the necessity of storing pre-mixed concentrations in the tanks at all times. Better economy can be realized using the proportioner it is said. Further details of the portable and wall-mounted Inject-ta-line proportioners are available by addressing the manufacturer.

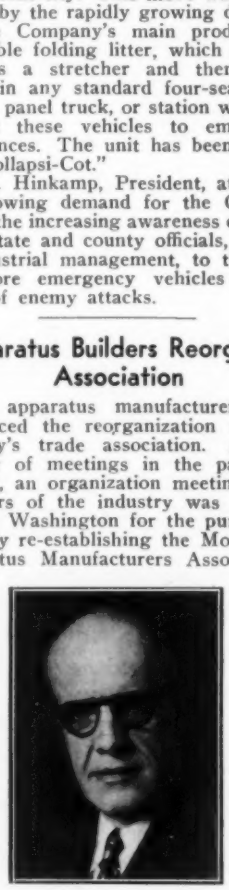
Emergency Aids Co. Expands

Emergency Aids Co., of Chicago, Ill., are moving to larger and more modern quarters, located at 3444 No. Clark Street, that city. This move was necessitated by the rapidly growing demands for the Company's main product, an adjustable folding litter, which may be used as a stretcher and then easily placed in any standard four-seat automobile, panel truck, or station wagon to convert these vehicles to emergency ambulances. The unit has been named the "Collapsi-Cot."

E. F. Hinkamp, President, attributes the growing demand for the Collapsi-Cot to the increasing awareness of municipal, state and county officials, as well as industrial management, to the need for more emergency vehicles in the event of enemy attacks.

Apparatus Builders Reorganize Association

Fire apparatus manufacturers have announced the reorganization of their industry's trade association. After a number of meetings in the past nine months, an organization meeting of 25 members of the industry was recently held in Washington for the purpose of formally re-establishing the Motor Fire Apparatus Manufacturers Association.



William F. Seals

Ernest L. Maxim, President, Maxim Motor Company, Middleboro, Mass., who has sparked the industry's effort to establish the trade association on a permanent basis, was elected Chairman of a committee to take the necessary steps in formulating the association. At the same meeting the following Directors were elected: Ernest L. Maxim, Maxim

Motor Company, Middleboro, Mass., Joseph G. Grossman, Ward-LaFrance Truck Corp., New York City; R. B. Sargent, Hale Fire Pump Company, Conshohocken, Pa.; Leslie Young, Young Fire Equipment Corp., Buffalo, New York; P. E. Van Pelt, P. E. Van Pelt, Inc., Oakdale, California; and J. B. Slaughter, General Fire Equipment Co., Detroit, Michigan. This Board constituted the organization committee.

At a meeting of the Board of Directors in New York on June 19th, Mr. Maxim was elected President; R. B. Sargent, Vice President and William F. Seals, the Association's paid Secretary-Treasurer.

Mr. Seals is a native of Washington, D. C., and has been engaged in trade association and public relations work since 1928. His background prior to that was in the newspaper business as a reporter, writer and promotion man. His office, in the Dupont Circle Building in Washington, D. C., is the headquarters of the MFAMA.

As a newspaper man and in trade association work, he has had long and varied experience in working with Government agencies. He is a member of the American Trade Association Executives and is recognized in trade association circles as a progressive advocate of open and frank exchange of information between Government and industry.

The immediate program of the newly reorganized Association will be to gather and correlate pertinent data from the members of the industry, so as to be in a position to negotiate with Government agencies, and in turn gather and report to the members of the Association information from the Government which will be of value to them in conducting their business under the defense emergency program.

Convenient Alarm Box

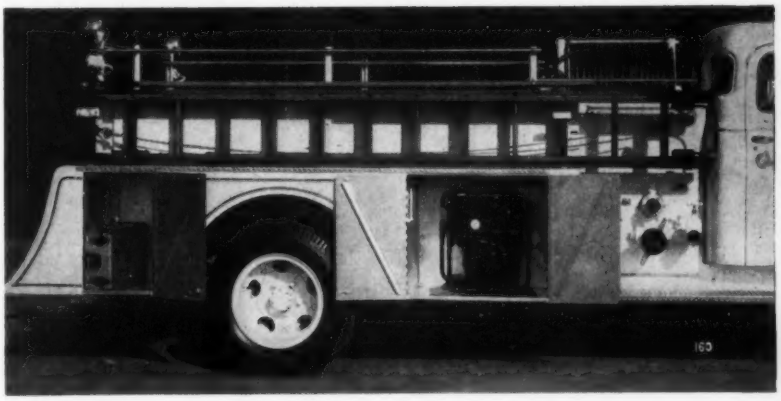
Fire Box 822, in Bridgeport, Conn., is located in a very convenient spot for one who fears the cold blasts of winter. At least, George Gartland, of "no certain address," found it quite adapted to his wish recently. Box 822, just for the record, is located on a pole outside the Fairfield County jail on North Avenue.

Gartland found the hook in the red fire box quite an attraction. He gave it a pull. Bridgeport firemen responded. "Where's the fire?" inquired the first officer to arrive on the scene. Shivering and shaking, Gartland, fresh from doing the taverns in the neighborhood, replied, "There's no fire. It's cold as hell out here and I want to go to jail to get warm!"

The fireman returned to quarters and then the gendarmes took over. Gartland was taken to Police Headquarters, booked, and given a lower berth for the night. Next day City Court Judge Benjamin Leipner gave him 90 days of warmth in the North Avenue pen.

Before imposing sentence Judge Leipner delivered a verbal lashing to Gartland. "We certainly cannot have the lives of firemen and autoists endangered simply because you are cold and have no place to sleep," the judge said. "Besides costing the city a lot of money your whim might have made these firemen answer a false alarm while they might have been needed urgently elsewhere."—TOM MAGNER

YOUNG *firsts—*



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- *in use of Hale 3-stage pump*
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Persons in the News

Callahan Heads N. J. Civil Defense

Former Fire Chief Andrew T. Callahan of Harrison has been appointed coordinator of fire services for the New Jersey Division of Civil Defense, it was announced on July 19.

Callahan who during World War II received a citation from Governor Edison for his preparation of a pamphlet describing fire prevention methods adaptable to local defense units, immediately started work on his new assignment.

His office will be in Newark at the Fire Insurance Rating Organization of New Jersey, 31 Clinton street, where he will work with Leon A. Watson, chairman of the fire committee of the technical advisory committee of the State Civil Defense division. Watson also is general manager of the rating organization.

State Director Leonard Dreyfuss said Callahan's first task will be to co-ordinate the fire services program in the metropolitan New Jersey district. This includes Bergen, Passaic, Hudson, Essex and Union counties.

Callahan, with half a century of fire fighting service to his credit before he retired from the Harrison department two years ago and who is known throughout the state as "Mr. Fireman," has served as president of the International Fire Chiefs ' Association and holds life membership in all of the state's major fire personnel organizations. He also is a member of the New England Fire Chiefs' Association.

Charles Foucek, Chief of Naperville, Ill., Department

Charles J. Foucek was appointed chief of the Naperville, Ill., Fire Department in July to fill the vacancy left by resignation of Chief Paul Drendel, who headed the department since 1947. Chief Foucek served as the town's first fire chief from 1931 to 1947. For some years he was instructor at the Annual Fire College held at the University of Illinois.

H. E. Newell Honored

H. E. Newell, assistant chief engineer, National Board of Fire Underwriters, New York, N. Y., was recently awarded a certificate of service by the American Standards Association in recognition of his work in the development of American Standards. Mr. Newell has just retired as a member of the ASA Standards Council, where he represented the Fire Protection Group.

During the ceremonies at ASA headquarters on May 29, 1951, Vice-Admiral G. F. Hussey, Jr., managing director of ASA, presented certificates to members of the Standards Council who have served more than a year. Admiral Hussey emphasized the changing role and increased importance of the Council in the promulgation of American Standards.

More than 2200 leading industrial firms are members of ASA, in addition to 110 national technical societies and trade associations. The Association coordinates standardization work of many national organizations to assure standards that have inter-industry recognition on a nation-wide scale. Thus the waste of duplicated effort and divergent standards is avoided.

Atom Bomb Radiation

(*Continued from page 660*)

measured within the first microseconds (one millionth of a second). The phenomena associated with atomic explosion, of interest to civil defense and the fire service, such as blast, heat and ionizing radiation, were studied in detail.

It is said the object of the complex program was to prove new atomic bomb designs, reportedly of much greater strength than the much publicized Hiroshima and Nagasaki bombs. The biomedical program studied the effects of nuclear detonations on skin tissues, glands and circulatory systems.

The structures program, included the testing of various designs and types of construction to develop the reaction of underground and surface shelters, industrial plants and dwellings, the object being to establish a method of predicting blast damage and to gain information useful in developing designs to minimize blast damage to industrial and other facilities.

It is reported some 900 measurements were taken on 27 various structures. A variety of glass and window construction was tested for the Civil Defense Administration. The information gained, it is said, will be of "significant value" to civil defense.

The cloud physics program investigated the growth and rise of atomic cloud and plotted the associated radiation fields, with the object of better understanding cloud radiation.

The radiac evaluation program field-tested various models of badges and dosimeters. The program also included experimentation in the field of new radiation detection devices. Various types of meters and recording devices were exposed. These data, it is said, will contribute to the design of simple, reliable radiation detection instruments.

Physical tests included exposure to tanks, protective clothing, the study of contamination and decontamination problems, the study of fall-out patterns and particular size of fission fragments, and the development of filter materials to screen radioactive particles.

Reporting on the tests, experts said the operations indicated clearly "that the mysterious ghost of lingering radiation should be dispelled forever." They said "the immediate radiation, blast and heat (from an atomic bomb) kill and destroy. Fear of lingering residual radioactivity must not delay prompt disaster operations in the event of an attack."

It was repeatedly pointed out that the findings of the tests will be of great value to civil defense, although primarily the experiments were conducted for military purposes. As soon as the data bearing upon civil defense can be analyzed and given security review, they are expected to be released. For security reasons, it is not possible to release any of the findings on radioactivity, etc., at this time but it was made clear by the experts that the tests "repeatedly

demonstrated" that radiation hazards will not delay rescue and recovery work after an air burst of an atomic bomb. "There is no reason why every casualty cannot be removed and treated immediately without serious radiation hazard to rescuers," said Brig. Gen. James Cooney, radiation safety advisor to Joint Task Force Three. He said in the case of a high aerial burst, such as probably would be used, there would be no residual radiation. In a low air burst, just above the ground's surface, significant residual radiation would be confined to an area 300 to 400 yards in radius. No rescue work would be required in this area because it would be devastated. Rescuers outside this area would not be subjected to injurious ionizing radiation in reaching survivors, it was stressed. Radiation safety surveys made after the tests in the immediate area of Eniwetok Atoll and neighborhood area failed to reveal any contamination of a serious nature. Food and drinking water outside the destroyed area continued to be fit for human consumption.

The immediate radiation hazards from the air burst, it was brought out, disappear after the first two minutes. Rescue, fire fighting and recovery work can begin immediately in any area where there is life "the same as in any major catastrophe caused by conventional air attacks."

It was reported during the conference that the light of one of the atomic blasts was visible on the Kwajalein Islands 375 miles away from Eniwetok.

Considerable information was disclosed concerning the radiation contamination of navy and other ships subject to atomic blasts and the costs and other details of decontaminating. It was reported ships were manned within 48 hours after the blasts and brought back to the states. It was said that there is no significant radiation following a high air burst and that even radiation damage from an underwater burst would not put ships (Naval) out of commission.

There is a possibility that data acquired on the energy developed by the new weapons during the tests may be later released to the public and the fire service. At present this is withheld for security reasons.

Discussing the "laying of the ghost of atomic fright," Dr. Graves was asked about the possible effect of bombs dropped on a city like Washington. He replied that the amount of damage from one weapon on a city like Washington would be tremendous but "we would not have the tremendous after effects that we had in Hiroshima." (because of the different type of construction and contents of structures). "On the other hand," he said, "I would certainly not want to be in Washington if that (the atomic attack) happened."

It was disclosed that, from 15 to 20 minutes after the test blasts, theoretical rescue squads were in the blasted area and that they did not wear special protective clothing of any kind.

Of interest to the fire service, in conclusion, was this statement released by Brig. Gen. James Cooney: "The immediate radiation hazard from the air burst disappears after the first two minutes. Rescue, fire fighting, and recovery work can begin immediately in any area where there is life, as in any major catastrophe caused by conventional air attacks, earthquakes or disasters on the scale of those at Texas City and Halifax."

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ROCKVILLE CENTRE, N. Y.

R. W. Joyner, Pioneer I.A.F.C. Member

Prominent among attendants of the International Associaion of Fire Chiefs convention for approximately half a century, R. W. Joyner—erstwhile "Dick" to his legion of friends of the fire service, is recognized as the pioneer member of that organization.

It is possible that someone holds an older membership in the International Association, but that is doubtful. Nor is it likely there lives a man today who can boast the fire service background that is the proud heritage of Dick.

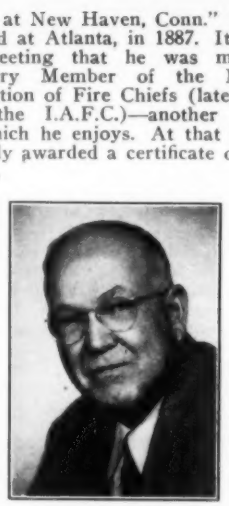
Dick Joyner doesn't talk about it, but his entire adult life—and even prior to that time, his childhood and youth—have been centered on the business of fire fighting. Peculiarly enough, however, the only period during which Dick Joyner was on the payroll of any fire department was at the tender age of six. At that time, and for five years thereafter, he actually drew money from the Atlanta, Ga., Fire Department.

It happened thus: R. W. Joyner's father, W. R. Joyner, was made Chief of the Atlanta department in 1885. At that time he, with young Dick, occupied rooms on the third floor of the "Hook & Ladder Company" which was directly across Broad street from "Engine and Reel Company No. 1"—the latter structure housing the chief's office and the signal system.

On practically all alarms both of these companies responded and no one was left in either station. So it came to pass that the young hopeful was assigned the responsibility—at the tender age of six—of coming down from his family's living quarters to close the doors of both stations after the equipment had left. Incidentally, young master Dick was always accompanied by his old negro mammy. In consideration for this munificent service the City placed him on the payrolls at $6 per month. After five years, the department had grown so that it was not necessary for both these companies to respond and Dick's pay was stopped.

"My first attendance at a National Convention" relates Brother Joyner, "was in 1885 at Long Branch, N. J. Then in 1886 at New Haven, Conn." He also attended at Atlanta, in 1887. It was at this meeting that he was made an Honorary Member of the National Association of Fire Chiefs (later to become the I.A.F.C.)—another distinction which he enjoys. At that time he was duly awarded a certificate of membership.

Dick Joyner as he looked in 1887



Dick Joyner today

Although his experience as a paid hand ceased at the age of eleven, he kept up his active connection with the department. When he was fifteen he acted as courier and aide to his father, Chief Joyner, delivering his orders and returning to "H.Q." to await further instructions. Remarks Dick, "It was very necessary that I never appear to give orders myself, but merely pass on the instructions of the chief." In those days there was a special spot reserved for young Joyner on the service truck, which he occupied when making a run with the company.

Joyner, Sr., was elected Mayor of Atlanta in 1907 and served one year, being ineligible by law for reelection. After that he was appointed State Fire Marshal of Georgia, which office he held until his death.

It is disclosed that "Junior Joyner" went in for baseball as well as fire fighting. He was business manager of the Atlanta Baseball Club for several years. His father also was president of the Club and served as director for some time.

In 1909, Dick Joyner made his first business hook up with the fire service, when he became connected with P. O. Herbert, at that time manager of the Eureka Fire Hose Company's Southern Division. He remained with this company until his retirement, in 1946, at which time he was succeeded by his son, Richard G. Joyner, another "Dick"—whose regretable and untimely demise was reported last month.

In January, 1911, R. W. Joyner was made manager of Eureka for the Dallas territory and while in that capacity was also assigned as manager of the Los Angeles and Denver offices of the company.

Since 1911, neither R. W. Joyner, nor his many friends and associates can remember but one convention of the International at which he was not in attendence—the exception was San Francisco, last year when illness prevented his being present.

At the Grand Rapids Convention of 1944, R. W. Joyner was made an Honorary Life Member of the I.A.F.C. Speaking of his fire service connections he says: "The activities and the association with the members of the fire de-

partments have made my life a continuous series of pleasant memories. It is hard for me to conceive of a vocation that would have proven more enjoyable. It has given me an opportunity to meet and cherish many close friendships with wonderful people. I have had the opportunity to observe that fire department personnel have a high record for honesty and integrity, this in spite of the many opportunities and temptations to which they are exposed in many fires. They have proven their worthiness of trust and their own association would be the first to condemn any breach. They are a wonderful bunch and every time the bell rings they have given service to their fellow it is impossible to find a group comparable."

Baltimore

(*Continued from page* 649)

The final statistical recapitulation was as follows:

233 gallons of coffee
2332 sandwiches
400 packages of chocolate
175 buns
118 hours of continuous service.

The organization of the coffee detail began less than a year before the Hawkins Point fire. Originally the coffee was brewed in enamel pots, but these soon were found impractical. Insulated jugs were then substituted. As recognition of the Association's service extended throughout the Baltimore Fire Department, the need for better, quicker and broader service was seen. Large five gallon jugs were obtained and the Association members voted money for a water heater and other equipment to modernize the system.

All Major Fires Serviced

It was also arranged that three members would be notified of all alarms greater than a first, and they would handle the service, direct it and obtain the necessary materials. Now all major fires, as well as long-working ones, are quickly serviced. It is the duty of the man on watch at "414" Headquarters to see that these men are notified. He has most of the necessary information, for in the Association's headquarters is a gong and a communicating set over which the alarms are announced. Also in a drawer close at hand are the assignment cards giving the location of all alarm boxes and other pertinent data.

The man on watch calls Police Headquarters which transmits the message over its short wave radio, using the assigned special car number. One of the "414'ers" on the street will then call the 414 Headquarters to check location and give instructions. Then he contacts the other men to complete arrangements. One of these members will stop at the headquarters to load up with urns of coffee, after which he proceeds to the scene of the fire. This is how the club members keep in contact with the fire department and learn about additional alarms.

This is the saga of a handful of men interested in their fire department, who have a good knowledge of the workings and discomforts of fire fighting and who are willing to work voluntarily, day or night, summer or winter, for the greater comfort of others, with little thought of their own discomfort.

CHARLES WIERK, JR.

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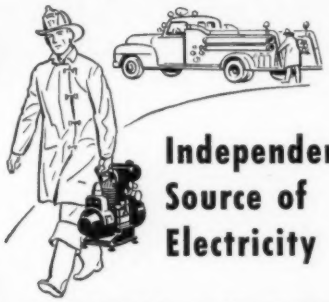

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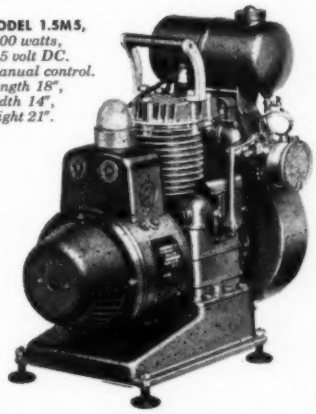

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FIRE FIGHTERS, monitoring crews, certain rescue crews, as well as research scientists, and regular firemen are assured protection in usual and emergency situations, except in tunnels, tanks, and tightly closed areas AT A COST THAT PERMITS FULLY EQUIPPED CREWS.

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DETROIT ACCELERATES PROGRAM FOR REPLACEMENT OF APPARATUS

Long Range Plan for Eliminating of Over-Age and Obsolete Motor Apparatus Expedited

A Staff Report

In an official bulletin to all members of the Detroit Fire Department, the Board of Commissioners revealed a program of apparatus rehabilitation and improvement that has been in progress during the last four years. Mayor Cobo not only authorized, but instructed, the Four Fire Commissioners to make all purchases of major equipment in January instead of waiting for the new fiscal year in July. The result of available deliveries this year will give the Department more new equipment during 1951 than at any time in any one year since 1922, when final steps were taken to motorize the Department.

"It is evident that many of the officers and men are not aware of the improvements being made or the extent of them; therefore, this bulletin is issued so that all members of the Department may know what is being done," the Board bulletin said, and then it continued with this:

"It is acknowledged that we [Detroit] have well trained, efficient men in our Department and your Commission at all times is endeavoring to place in your hands the best equipment and tools for you to work with."

The following schedule of new equipment the bulletin stated has been in progress: During the month of May, a new 1,000 gallon enclosed pumper with radio for Engine 7; dedication of new Fire Station and installation of new Fire Company—Engine 30—with new 1,000 gallon enclosed pumper with radio; new 65' hydraulic aerial H.P. pumps and radio for Ladder 16; new 1,000 gallon enclosed pumper with radio for Engine 38; new 1,000 gallon enclosed pumper with radio for Engine 8; new 1,000 gallon enclosed pumper with radio for Engine 55; new 65' hydraulic aerial with H.P. pumps and radio for Ladder 27. Old Engine 7 was completely overhauled and repainted with radio installation and sent to Engine 57. Old Engine 8—1,000 gallon enclosed pumper was overhauled and repainted with radio installation and assigned to Engine 56. Extra H.P. Hose Wagon No. 2 at Engine 6 was completely overhauled and repainted. Extra H.P. Hose Wagon No. 3 at Engine 8 having had the same process last year. Extra H.P. Hose Wagon 4 fully equipped at the Apparatus Repair Shop.

If no material shortages develop and deliveries are maintained approximately as promised in June, the Department Ambulance will be put back in service with a complete new Cadillac chassis, V 8 Motor with hydromatic transmission, and the balance of the vehicle completely gone over with new grill, hood, fenders and doors.

In July Rescue Squads 6 and 7 were installed at Engines 50 and 53 respectively, at which time Rescue 5 will be moved to Engine 40.

In August Ladder 1 is to be reinstated with complete new tractor equipped with tank and H.P. pumps and the trailer completely rebuilt. It was in an accident.

During September Engine 17 will get a new 1,000 gallon pumper with radio. Present Engine 17 to be completely overhauled and repainted and assigned to Engine 41 with radio. The same month a new 1,000 enclosed pumper with radio will be installed in Engine 22.

In October new 1,000 gallon enclosed pumpers will be placed at Engines 23, 4 and 47. And the Mack at Engine 4 is to be reconditioned with radio and assigned to Engine 60. Also two new 85' hydaulic aerials are expected—one for Ladder 20, the other unassigned. The two 85' ladders they will replace will be overhauled and repainted and assigned to stations having older vehicles.

By November another 65' aerial hydraulic ladder with radio and H.P. pumps will be assigned to Ladder 13. Recently put in service was a third line crew truck for communications, and during this year's budget we have also been allotted a new flood light car and new cars for all chiefs. All of the above equipment, if deliveries are maintained, should be installed before the end of 1951—a total of 34 new vehicles in one year.

Provision has been made for sufficient new two-way radio sets which will complete the basic two-way radio program of the Department, including all Fire Companies. The Department for the last 3 years has been allowed extra amounts of 2½" and 1½" hose above normal requirements, and is installing on all Companies portable electric red warning flashers to be set out at night when standing at fires.

The Board of Fire Commissioners told the force that it is very pleased to be able to accomplish all this through the understanding, cooperation, and funds allotted by Mayor Cobo and the Common Council of the City of Detroit.

Volunteer Fire Department

(*Continued from Page* 643)

shortage in the Thibodaux Fire Department. On the contrary, Director Riviere states that there is a surplus. A general alarm would bring out the entire membership of the department, approximately 300 active fire fighters.

A spirit of friendly rivalry between companies contributes greatly to the efficiency of the department, the director believes. He is of the opinion that the secret of any efficient fire department in any small community is to have an all-volunteer organization because municipalities cannot afford to pay the money required to operate a paid department of any size, and the small amount of money received by the department is not conducive to ade-

quate salaries; for this reason, the best for the job are not always secured.

Director Riviere believes that paid firemen should receive as high a salary as can be paid, because their lives are in constant danger. To operate an organization such as the present Thibodaux Fire Department on a paid basis, with only two men assigned to each company unit, on 12-hour shifts, would cost $43,000 per year for salaries alone, basing salaries at only $150 per month. Compared to this expense, the Thibodaux department is operated at a cost to the city of only about $7000 a year.

Director Riviere points out another advantage of maintaining the kind of a department which the city has: within the organiation there are available almost every type of skilled manpower desired—mechanics, electricians, plumbers, and so on. These men provide a pool of highly trained specialists that can be called on should the occasion arise. The large enrollment also furthers promotion of fire prevention in the homes of the community, with resultant favorable effect on fire losses. Fire prevention programs are promoted in schools and through local organizations.

The fire alarm system is the horn and bell type, Gamewell diaphone horn and a loud bell, which can be heard all over the city. All stations are equipped with registers and tape recorders, from which men who are near the station get the location of the call. Others proceed in their cars to the scene of the fire as indicated by the horn and bell, which are coded. Some firemen reside close by the stations and little time is lost in turning out in the night time.

Thibodaux claims to be one of the few departments in the area which uses foot valve strainers on all pumpers. They are particularly good when operating from draft, Director Riviere claims, adding: "actually, we can prime with them if every priming device should fail on our pumpers, and that means for more efficiency because we are located on Bayou LaFourche, known as the "longest street in the world." So far, all of our work outside the city is at draft, therefore department carries 40 feet of hard suction on each unit, as well as 300 GPM portable pump on the apparatus which responds to country calls.

Helicopters

(*Continued from page 654*)

many natural or semi-natural landing sites.

Areas with solid bodies of timber are too expensive to be developed for landing sites. Hardy complains of the slow cruising speed and short range of helicopters which limit their use to small areas. In patrol operations for fire detection he says that the high cost in use of helicopter must be weighed against several observations performed at intervals by smaller, less expensive, fixed-wing, or standard planes. Results of tests conducted in the Missoula area have been forwarded to Washington and experiments with helicopters and other new fire-fighting devices are continuing at that office. In the meantime, however, the forest service is reportedly depending on its two established fire fighting techniques, the base of which is smoke-chasers of the ground fire fighters who can be rushed into action by truck or car.

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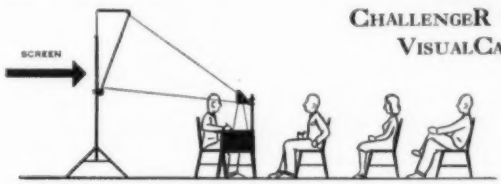

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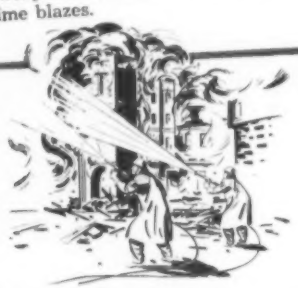

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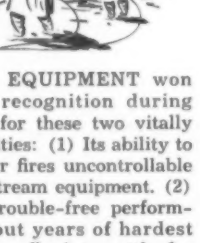

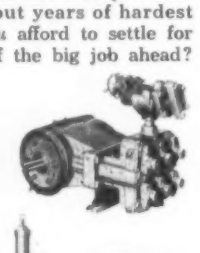

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New Haven Alarms Up—Losses Down

The Annual Report for the Department of Fire Service, City of New Haven, for the year 1950, is a well edited and printed document. It details the improvements made in the department, including the addition of a "Hi-Tender," the new hydraulic lift, for the Telegraph Bureau, and advances made in the department's Training School.

Although fire alarms were up in 1950, a total of 2,617, compared with 2,443 in 1949, total fire losses were down, amounting to $394,294.36, as against $413,512.09 in 1950.

Chief Paul P. Heinz recommends continued improvements, including three new pumping engines, better repair shop facilities, protection of municipally owned buildings by automatic fire detection equipment, better fire protection at Morris Cove Airport and bomb shelters for future needs of fire fighting services.

Hospital Fire

(*Continued from page* 621)

persistently on into the evening.

Shortly before 4 P.M., as the first companies began to pick up and return to quarters, the morgue wagons pulled in for removal of the dead. An aerial ladder was operated as a derrick as the stream of forms draped in salvage covers began from the upper floors. Recovery operations commenced as smoke still poured from the ruins and probing and digging in the collapsed upper floors of the west end continued through the afternoon and into the night under floodlights. At the height of the fire, ten bodies had been sighted by firemen and the number of missing was only conjecture. But as firemen penetrated the wreckage of the top floor, the magnitude of the loss of life became fact. Not until the middle of the following day was the final count of 35 fixed. The bodies of three of the victims were found clasped together just inside an upper floor doorway. Two blind women were found to have died sitting in their chairs. The body of the Mother Superior was discovered on the top floor where she had been cut off in her last rescue attempt.

The bodies were removed to the St. Vincent Street Morgue where nuns and relatives conducted the grim task of identification. Some of the bodies were badly burned and identified with difficulty, others were untouched. A number were identifiable only by jewelry or other personal effects.

The bodies wrapped in salvage covers were laid in rows on the morgue floor.

Morgue officials said their facilities had not been so taxed since 1943 when a bomber crashed in a Montreal tenement district killing 16.

A civic funeral was held for most of the dead on the following Monday from the famous old Notre Dame Church; an estimated 5000 were in attendance.

Montreal's colorful Mayor Camillien Houde, who was on the scene shortly after the third alarm, announced that he would recommend that a study of measures to prevent further such disasters be made by the municipal fire prevention bureau. The Hospice was reported to have undergone regular routine fire prevention inspection.

This tragic fire was the third since 1765 to destroy a home of this type operated by the Grey Nuns in Montreal. In 1918, 64 babies were lost while some 1100 persons, including 40 cripples, escaped. A convent is reported to have been destroyed in 1765 with an unrecorded loss of life.

The Hospice St. Cunegonde was not a charitable institution, but a boarding home and school. The residents were free to come and go as they pleased. The majority of the victims were pensioners who chose the home to spend their old age.

An amusing sidelight to the grim story was the experience of the night janitor of the home. He is said to have gone to bed at 5 a.m. in his basement room, setting his alarm clock for 1 o'clock in the afternoon. When the clock went off, more than an hour after the outbreak of the fire, he heard running water. Thinking it was rain, he went back to sleep and did not waken until discovered by firemen who waded

New Portland, Ore., Fire Station Has Unusual Features

One of the most distinctive of the nation's modern fire stations has recently been occupied by the Portland Fire Department. The concrete, brick and glass structure, measuring 180' x 80' over-all, with six doors, houses two pumper companies, a ladder unit, squad and compressor company on the first and second floors. The third floor provides office space for all department facilities together with an assembly hall with seating capacity of 350. A six-story drill tower, for training purposes, and an excellent handball court are located in the rear. The building has a full basement. It is expected the new building will serve for the meetings and exhibits of the Pacific Coast-Inter-Mountain convention scheduled for Portland.

through knee-deep water to his room at 2 o'clock. The janitor was advised to leave the building.

The throngs of spectators which surrounded the area early in the fire caused a major traffic snarl, so that police were obliged to provide motorcycle escorts for the ambulances and other emergency vehicles moving to and from the scene. Over 60 patrolmen were on hand, keeping the actual fire area well cleared.

Chief Inspector Ernest Pleau, whose parents were boarders in the building, arrived on the first alarm just as his 77 year old father was rescued by firemen. His mother had been removed earlier. Director of the Police Department Langlois reported to the scene to direct his department's operations.

Summary of Fire Department Operations

The following is a summary of operations according to records of Fire Alarm Headquarters.

11.49 a.m.—First alarm from street box at Atwater Ave. and Albert St. Struck by an unknown person. Response: 2 Aerial Ladders, 1 Pumper, 2 Hosewagons, 2 Service Ladders and 1 Salvage Truck under Acting District Chief Thomas Mitchell.
11.52 a.m. Vicinity box, St. James and Atwater: 1 Hosewagon.
11.53 a.m. Second alarm ordered by District Chief: 2 Aerials, 2 Service Trucks, 4 Pumpers, 2 Hosewagons, 2 Salvage Trucks, 1 Heavy Rescue Truck and a number of ambulances from various hospitals.
11.59 a.m. 1 Aerial on orders of Director.
12 Noon. Third alarm ordered by Assistant Director F. Gilmore: 2 Aerials, 1 Service Truck, 3 Pumpers, 3 Hosewagons, 1 Salvage Truck.
12.09 p.m. 3 Aerials.
12.37 p.m. 3 Pumpers.
12.49 p.m. Fuel Wagon.
1.19 p.m. Second Fuel Wagon.

Alarms were transmitted both by radio and from street boxes. The special call for 1 Aerial by Diector R. E. Paré was ordered from his office before he left on the second alarm.

On the statistical side: 11 pumpers were operated to supply 44 lines involving 24,050 feet of hose. There were eight handlines, 10 aerial ladder streams and five deluge guns operated. 1424 feet of ladders were used and 147 covers laid.

The fire department casualty list shows the dead as two nuns, five female employees (average age 53), and 28 female boarders whose ages averaged 76 years. Injuries were reported to be comparatively few and not serious. Firemen injured included six with slight injuries and four overcome by smoke.

The lessons to be learned from the Hospice St. Cunegonde are old ones. The disaster was a repetition of similar fires sweeping through old combustible buildings, poorly designed for the purposes for which they are used according to modern standards. The lack of modern fire protection devices and rapid exit facilities, with basic construction conducive to rapid fire spread, can place the most efficient of fire departments at an insurmountable disadvantage. Despite what appears to have been a prompt alarm, the deed had been done when the fire department arrived. The hazards of construction operations can be seen in this case. Whether or not the actual cause of the fire, the construction work on the new elevator shaft undoubtedly contributed to the rapid spread of this fatal holocaust.

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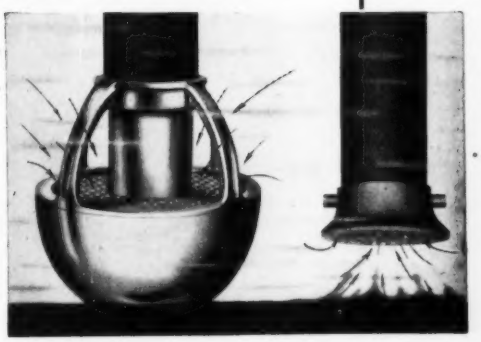

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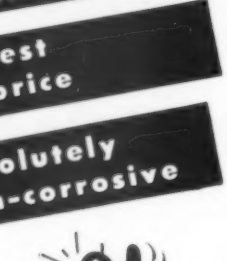

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gonde, one need only consider the consequences of this fire had it occurred at night.

Acetylene Torch Probable Cause of Fire

In his report on the cause of the fire issued recently, Fire Commissioner Jean St. Germain said: "For reasons that I have outlined I arrive at the conclusion that the fire was caused by the use of an acetylene torch at the top of the elevator shaft of the building and that the fire was not lit with premeditation but resulted from the negligence of the worker who was cutting rivets with the torch without first taking the necessary precautions demanded by this dangerous work."

Mr. St. Germain said experience had shown that the use of acetylene torches constitutes a constant fire hazard, unless the most minute precautions are taken to prevent it. In the present case, he said, whether by ignorance or by negligence it would seem that no preventive measures were taken except for a bucket of water into which the cut rivets fell.

Reviewing the evidence taken before him at the inquiry into the disaster, Mr. St. Germain said the fire was discovered while it was raging on the third floor of the building near an elevator shaft under construction. Also that at the time of the fire's outbreak and several minutes before, workers were at the top of the shaft and one was using an acetylene torch to cut rivets.

He also recalled that several workers testified that sparks were flying as the rivets were being cut and there were spaces of from two to three inches in the floor of the scaffolding where the workers were, and that sparks could pass through.

Continuing, Mr. St. Germain said: "In this elevator shaft there were openings at each floor where doors were to be installed and these openings were covered with tarpaulins to prevent occupants of the building from falling into the shaft.

"These sparks probably ignited the tarpaulins or, in any event, inflammable materials which were found on the shaft near the third floor."

Rural Fire Control

(*Continued from page 626*)

large hose and suitable nozzles are required. For this reason, an ample supply of 2½-in. hose and necessary fittings are considered essential in the equipment of the modern rural pumper. Another reason for plenty of large hose is the likelihood of necessary relay operations, and long stretches of hose in getting water on a rural fire.

The size of booster tanks has been gradually increased through the years. From a minimum of 100 gals. capacity in 1945, specifications now sometimes recommend 400 gals. or over. The use of water fog, and more lately of fog treated with a wetting agent, has materially increased the effectiveness of the booster.

Today's modern rural pumper, with 400 to 800 gals. of water in its booster tank; double reels of 200 ft. of 1-in. booster hose equipped with multiple-use nozzles (fog as straight stream) can deliver an effective attack of from five to fifteen minutes, depending of course

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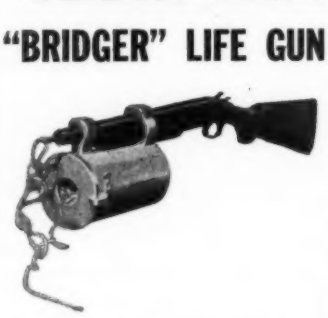

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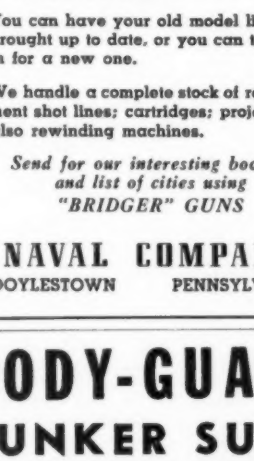

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upon the size of tank and extent to which the two lines are used. That is time enough to bring up reinforcements of water or additional pumping equipment.

As water supplies improve on farms, pumping capacity is expected to increase. If a large stream, pond or reservoir is within 500 to 700 feet of the fire, the larger pumper can be used. We have already stressed the importance of opening up lanes to such supply. The approach should be so graded that the fire pump will be on solid foundation and not more than 15 feet higher than the water level. The distance for direct pumping should be checked against the length of suction hose carried on the pumper. Incidentally, rural pumpers usually carry at least one length more of suction than is customary on city pumpers.

Other specifications for the standard rural pumper and tank-pumper call for plenty of power; good clearance; protection for the driver and at least two other men; large tires and battery capacity. There is an increasing demand for proportioning equipment that will permit use of water fog, wet water, foam, or fog foam, by the simple turning of some valves.

The question has been asked, is it better to have two pumpers of say 500 G.P.M. capacity, for rural fire fighting than a single pumper of 750 G.P.M. capacity? A number of authorities answer this in the affirmative. The single unit cannot provide the dual usefulness and adaptability that two smaller units insure. Furthermore, there is not too great difference between the cost of the two smaller as against the one larger unit.

Much the same thinking is found when it comes to tank trucks. Out in Oregon, Wis., that community's volunteer department operates two tankers with total capacity of 1700 gallons which respond to all rural calls. The No. 1 tanker with 900 gallons supply and a 500 G.P.M. pump goes into action immediately. The second, with 800 gallons storage, hooks to a gated suction intake of the pumper-tanker. If the treated water from the attack unit does not control the fire quickly, and more water may be required, the attack pumper draws on the supply of the second tanker. When that supply is exhausted it can be sent for refill while the attack unit continues the fight with the few hundred gallons remaining in that unit. Of course, in the meantime, if the fire conditions indicate it, additional tankers or other reinforcements will have been summoned through mutual aid.

The incident is cited to show why some rural companies prefer two tanker units to one single, larger outfit. It is said there is not much difference in the cost between the two smaller trucks and the larger one; further that the two units can carry more men and equipment.

Recommendations: Purchase of only "standard" equipment. By that is meant apparatus designed and built to the standards specifications, as adopted by the Internaional Association of Fire Chiefs and the National Board of Fire Underwriters.

These specifications are comprehensive and cover, besides the main recommendations for pumping engines, hose bodies and such details as mechanical foam and wetting agents. Special pro-

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sions are presented for water tank fire apparatus having tank capacities of 400 gallons or larger. Sizes recommended are 400,500,600 and 750 gallons. To meet the apparatus performance standards, motor truck chassis and other design features must be engineered with regard to the specific water load. Tankers are required to have two reels for booster hose, and 1-in. booster hose has been made standard for all fire apparatus. Reels shall have capacity of 200 ft. of 1-in. hose.

Comprehensive programs for replacement of rural fire apparatus and equipment should be established to provide the retirement for all outwork and outmoded facilities.

All active firemen should be trained in driving and operation of all rural fire fighting equipment. Attendance at state or other recognized fire schools and colleges should be mandatory, at least for officers and pump operators.

The mechanism of coordinated attack, should be studied and proper experiments made with different apparatus, extinguishing agents, hose loads and hookups to determine the best procedures for the respective fire department.

Inspections and Pre-Planning

It may be asked, what have inspections to do with rural fire attack? Reflection, however, will indicate that periodic inspection of farm and other rural hazards will provide information pertinent to response and fire fighting operations.

The best way to cut fire damage, of course, is to reduce the number of fires. The best way to reduce the number of fires, and their severity, is to conduct constant fire education programs, of which periodic inspection is a major detail.

Obviously, it is difficult to institute such inspection using volunteer firemen, whose time is important to themselves and who, although they may be paid for fire duty, are not paid for inspection duty. All of which is a reason why many modern rural fire organizations maintain a paid chief or other authority, who can include inspection work among his responsibilities. However, even if no person in the department is available for this task, there may be other sources.

One thing is important: information developed as a result of survey or inspection, by whatever authority, should be made available to the fire fighters, and by them used to plan possible fire attack on the property or hazard in question.

Although it is disclosed that not many rural fire companies attempt to plan fire attack strategy for any particular occupancy in their area, a number do with excellent results. Not only do they "prefight" fires in such occupancies on paper, at meetings they sometimes take the equipment out and conduct actual drills on the property.

Recommendations: Inspection of occupational hazards in a rural fire company's area are highly desirable. Some one, or a group, should be charged with this responsibility. The person or persons should be qualified to detect all types of fire hazards in all types of occupancies encountered in the areas. If necessary the inspector should be paid for this service. If no one within the department is available, someone should

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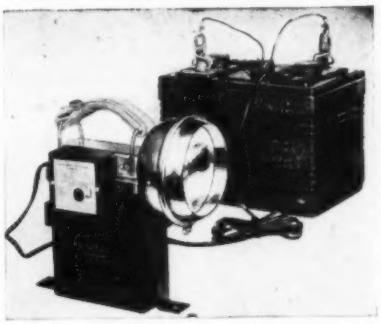

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be employed for the task. In this connection, the services and advice of county agents, underwriters and rating bureau representatives, state and county agencies, may well be invited, and followed.

Inspection reports should be made out in duplicate (at least), one copy being left with the person in possession of the property, the other copy filed at district fire headquarters. If covering tenant occupied property, a third copy should be left with the tenant.

There is no reason why district fire departments should not conduct "dry runs" in planning the attack on simulated fires in special hazards, such as churches, elevators, creameries, and other commercial occupancies, as well as upon farm occupancies where such preplanning is indicated. The information derived from these "paper fire attacks" should provide the basis for special instructions to local and, if advisable, neighboring mutual aid, companies.

Conclusions and General Recommendations

Every state should pass laws enabling counties or townships or districts to organize fire protection units, the cost of which could be placed on the tax roll. Protection for fire districts not covered by towns and villages should be furnished wholly by the counties or jointly by county and township receiving protection. Appropriations should provide for maintenance and housing.

Township, district or other rural fire departments should be organized on a group basis where possible, with sufficient paid personnel to at least have a driver for each piece of equipment, who can also receive alarms and assist in maintaining facilities.

If insurance companies are permitted to finance the purchase of fire apparatus under law (by loan to towns for the purpose), as is done in Nebraska, for example, and it is impossible to finance the fire department any other way, this plan should be followed.

Group organization can include town and village protection forces and by central control, with radio communications and modern alerting systems for alerting the volunteers, can make fullest use of the minimum of equipment and personnel by providing most effective response and attack, thus taking fewer men from their jobs, saving mileage and wear and tear on equipment. This system, in successful operation in counties and areas in Maryland, Ohio, Michigan, and New York can be adopted anywhere, modified to fit local conditions.

Most small communities have no municipal water system. Incorporation is a requisite to such a system. In many states the law permits contiguous areas of two square miles or less, with at least 100 inhabitants, to incorporate as villages. Fire protection is a major consideration of such incorporation, and a central water system, with fire hydrants, is certainly a fundamental of good fire protection.

Meanwhile, if the rural community has no adequate static water supply, steps should be taken to create it, by any one or more of the provisions previously given.

The use of radio as, well as telephone communications for alerting volunteers and for directing fire fighting operations in the field should be weighed.

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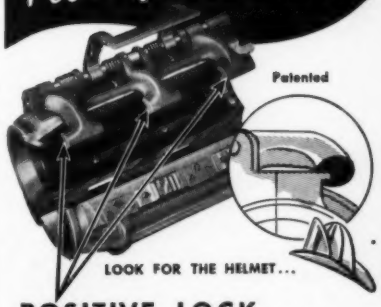

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Radio can be made to pay dividends on investment, whether the installation is financed by the local community, or the county, or both.

Rural fire departments should carry the full amount of both public liability and workmen's compensation. Fire chiefs should know their state and local laws. If there is a 10-mile limit to county-wide organization, as in Illinois and some other states, provision should be made for setting up boundary lines accordingly.

Fire protection districts should understand not only all state laws applying to their case, but they should understand the requirements of state inspection bureaus necessary to secure Class A or B ratings. Such knowledge, if put to proper use, may reduce insurance rates.

Comprehensive training programs should be undertaken to bring all firemen up-to-the-minute in the principles of coordinated fire attack, utilizing the modern facilities and techniques previously mentioned. Attendance at state fire schools and college should be a "must," at least for fire officers and pump operators.

Rural communities must be made conscious of the principles and practices involved in rural fire prevention as well as the need of fire protection. Fire departments should be regarded as fire prevention as well as fire protection agencies, and their budget should be planned and provided accordingly.

Fire prevention committees and groups should be established within the district among fire department personnel, or at the county level. Fire hazard inspection and check sheets should be filled out by a qualified fire inspector (preferably a member of the fire department) and reports made as before suggested. Self-inspections should be encouraged among farmers.

Teamwork, in the interest of fire prevention and promoting the local fire department, is needed. Better community spirit can be promoted through town meetings, enlistment of 4-H and Rural Youth Clubs and service organizations. There are myriad ways to enlist the support of the community, small as it may be, in better fire prevention and protection.

Chicago Atom Tests

(*Continued from page* 632)

Fifty-six pieces of fire equipment took part in this test operation and 15 pieces were relocated to areas stripped of necessary fire protection. There were 217 fire department personnel taking part in the operation and 289 off-duty men reported back for the exercise.

At each of the command posts was at least one and often two ham radio operator cars. Police radio-equipped cars also were at each command post. In addition, five public telephones were designated at each command post and actual calls were put through all of them for the operation. The phones were in gasoline stations, taverns, floral shops, and other public or semi-public places.

Communications from the command posts to the primary control center, both by police radio cars and amateur ham radios was termed "fair." All command posts were united by a joint telephone system which ringed the imaginary disaster area.

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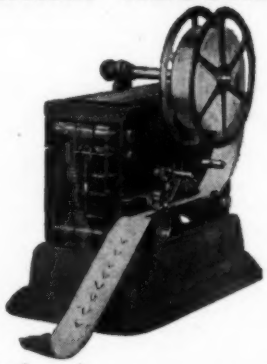

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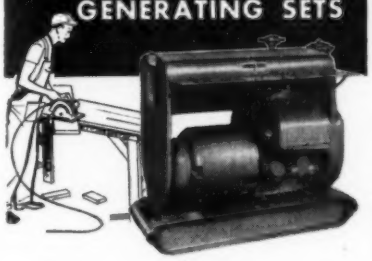

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radios operated "very good"; telephone communications, both public and mobile, were "very good," according to Chief Gerald J. Slattery's report.

His report recommended that parking of privately-owned automobiles around dispersal headquarters should be discouraged. This causes delay to incoming units, Chief Slattery explained.

At 11:05 a.m. the operation civil defense was terminated and all fire units were ordered to return to their quarters.

At the primary control center in the Park District administration building, William E. Downes, commanding officer, reported that everything went according to plan except for one minor difficulty. He said a shortage of telephones could not handle the many calls which came in during the exercise.

Thirty-five men, some of them manning telephone headsets and others monitoring radio and radio-telephone messages were in the large first-floor control room. There were 48 telephones in use.

Messages received included reports of commanders of the 12 command posts as they arrived at the posts and reported in service. The primary control center also monitored the walkie-talkie transmissions between Chief Newell in the helicopter and those walkietalkies on the ground.

Following are excerpts between the helicopter and Chief Mullaney taken from the radio logs in the control center:

At 10:15 the helicopter reported to Mullaney that the blast scene was sighted.

"10:15 from Mullaney—Restrict the area, name streets. Reply—79th and State streets is the center.

"10:17 from helicopter—A lot of people are trapped in Hamilton Park at 73rd and Normal. They can't get out.

"From Mullaney—How many? Why can't they get out?

"From Helicopter—Debris is blocking all adjacent streets.

"From Mullaney—Okay, will notify services, will get them out.

"10:19 from helicopter — Obvious water burst at 83rd and Racine sighted. Watch water pressure.

"Reply from Mullaney—Okay."

Following are other excerpts from the radio log in the control center:

"10 a.m.—Control to all units, proceed to your posts.

"10:26 a.m.—Call medical units, proceed transportation, pick up refugees.

"10.35 a.m.—All phones restored to service at 79th street and Ashland avenue. (The Stewart telephone exchange was presumed out of order.)

"10:42 a.m.—To post Number 8: Box lunches for 1,000 men to be distributed at command post at regimental report points.

"10:59 a.m.—Chief requests that Post 4 be notified all clear.

"11:00 a.m.—To all fire units, go to respective stations, order of Chief Mullaney.

"11:05 a.m.—All fire units have returned to their stations.

"11:10 a.m.—Attention all mobile units, alert over."

Chief Mullaney said he was generally satisfied with the handling of messages. Mullaney sent out messages over the communications system to cope with emergencies such as major fires, bridges knocked out, electric wires down, panics, and water failures.

There were no accidents involving fire

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equipment during the test. All fire department personnel were instructed before the test that vehicles must observe regular traffic regulations, travel at below-limit speeds, and heed all traffic signals. Only the bells on fire equipment were allowed to be used.

During the exercise several other box alarms of fire were received. One of them was a 2-11 alarm blaze at Wood and Walnut streets on the west side but was quickly brought under control.

Before the alert more than 50,000 school children went on a special atom bomb drill. They marched to shelters previously designated. The welfare section of the Chicago civil defense corps activated four reception points, two of them in school buildings, and shuttled ambulances between the points and the bomb blast scene.

Out of the communications test a report of weaknesses and recommendations were to be made for a future test.

On April 24 the communications committee issued a preliminary memorandum giving "on a broad basis without benefit of details comments by the various divisions" of the civil defense corps their suggestions, comments, and criticisms of the communications setup as it existed during the test.

Following is the substance of the committee's report:

The use of a PBX board should be eliminated. The PBX operators involved in the test performed well but incoming calls had to be challenged and distributed. This resulted in waste of time.

All incoming calls to the primary control center should come into a battery of telephone instruments having consecutive telephone numbers. On this basis, the operators assigned to these telephones would work as a team and a much larger volume of traffic could be handled. It would be desirable that these operators be able to record the calls in shorthand and that stenographers be assigned to type the messages since, in many cases, the incoming calls affect more than one division.

In addition, each division of the corps should have two representatives on duty with two telephones assigned. One telephone would be arranged for incoming only service and the other for outgoing only service.

The director of the control center should have an assistant and have telephone facilities as outlined above.

Each of the public utility companies (telephone, gas, and electric) should have telephone facilities as outlined above.

Eight radio channels were used in the test. Additional channels will be required in the future. For example, it would be very desirable under attack conditions that the fire department have a short wave radio similar to that used by the Chicago police department.

It would appear that a system of this type could be justified under normal conditions although this matter is outside the scope of defense activities. Also,

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the grid point amateur radio operators, if possible, should have facilities for transmitting and receiving on two frequencies. When all reports are in, it is conceivable that additional frequencies and facilities could be justified for other divisions of the corps.

Trained messengers should be on duty at the primary control center.

Large maps of Chicago should be mounted in the primary control center so that movement of equipment in the field could be recorded and observed by the division representatives and director on duty. Trained personnel should be available to chart conditions by means of colored pins or other suitable means. For this purpose a color code is suggested:

Blue—Public works and communications.

Orange—Transportation, traffic, and engineering services.

Green—Public safety.

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Red—Staff services.

In the future, overall coordination and direction of activities should be from the primary control center. On this basis there would be no field headquarters. During the April 18 test, orders were issued from the field headquarters that could not be recorded conveniently with the result that some confusion resulted when subsequent orders were issued.

The report made the following general comments:

An operational manual should be prepared covering all details of communications available and their use.

The telephones at all grid points in Chicago should be published in manual form and placed in the hands of those requiring this information. The difficult part of this project is the problem of keeping the information current. However, this problem could be surmounted if distribution were confined to key personnel in the fire department and the control centers.

Present plans contemplate connecting all command posts with a magneto telephone line (army field type) by running wire between posts. This plan should be revised to use telephone cable pairs to the extent they are available since the work could be completed more rapidly.

Each grid point in Chicago should be identified in advance by using an auxiliary sign mounted above the regular street signs or by stenciling on the curb.

A communications center should be set up at each command post. This would require the telephone company to extend the grid point telephones to outdoor locations as rapidly as possible after a bomb blast. Under attack conditions, coins probably would not be required for operation of the grid point telephones.

At this location there should be also an amateur mobile operator and a police mobile operator.

Initially it appears that the fire department should control the communications center at each command post but that as soon as possible this function should be transferred to a communications man to be dispatched to the scene.

On this basis, the fire department would be free to handle its normal functions and the communications center could remain intact until it were necessary to move it a considerable distance toward or away from the devastated area.

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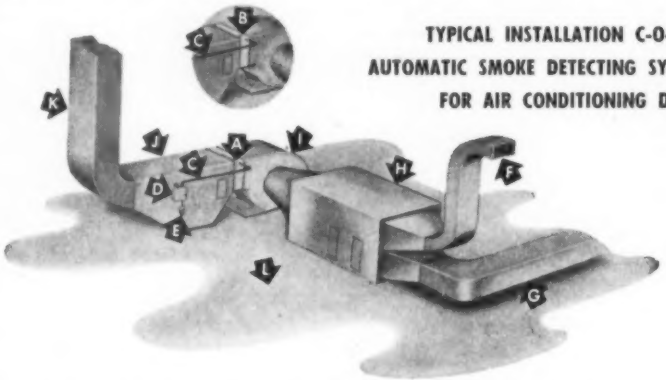

TYPICAL INSTALLATION C-O-TWO AUTOMATIC SMOKE DETECTING SYSTEM FOR AIR CONDITIONING DUCTS

A perforated smoke accumulating pipe
B smoke accumulating pitot tube (alternate)
C pipe line for carrying continuous air samples to smoke detector
D smoke detector
E audible alarm
F fresh air intake and duct
G return air duct
H air cleaning unit
I air fan
J air cooling and heating unit
K supply air duct
L floor level

C-O-TWO

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C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

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Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers
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